Examiner to preside at such hearing, to adjourn the said hearing from time to time, to administer oaths and affirmation, subpoena witnesses, compel their attendance, take evidence, consider any amendments to such offering sheet as may be filed prior to the conclusion of the hearing, and require the production of any books, papers, correspondence, memoranda, or other records deemed relevant or material to the inquiry, and to perform all other duties in connection therewith authorized by law; and

It is further ordered, that the taking of testimony in this proceeding begin on the 18th day of August 1936, at 2:00 o'clock in the afternoon of that day at the office of the Securities and Exchange Commission, 18th Street and Pennsylvania Avenue, Washington, D. C., and continue thereafter at such times and places as said officer may designate.

Upon the completion of testimony in this matter the officer is directed to close the hearing and make his report to the Commission.

By the Commission.

[SEAL] FRANCIS P. BRASSOR, *Secretary.*

[F. R. Doc. 1560—Filed, August 4, 1936; 12:49 p. m.]

Thursday, August 6, 1936 *No. 104*

TREASURY DEPARTMENT.

Bureau of Customs.

[T. D. 48461]

CUSTOMS REGULATIONS AMENDED—MANUFACTURING WAREHOUSES, SHIPMENTS OF DISTILLED SPIRITS AND WINES TO PUERTO RICO THEREFROM

TO PERMIT DISTILLED SPIRITS AND WINES TO BE RECTIFIED IN BONDED MANUFACTURING WAREHOUSES, AND TO PERMIT DISTILLED SPIRITS TO BE REDUCED IN PROOF AND BOTTLED IN SUCH WAREHOUSES, FOR EXPORTATION TO A FOREIGN COUNTRY OR FOR SHIPMENT TO PUERTO RICO

To Collectors of Customs and Others Concerned:

Pursuant to the authority contained in Section 251, Revised Statutes (U. S. C., title 19, sec. 66); Section 311, Tariff Act of 1930 (U. S. C., title 19, sec. 1311), as amended by Section 404, Title IV, of the Liquor Tax Administration Act, approved June 26, 1936 (Public, No. 815, 74th Congress); and Sections 556 (U. S. C., title 19, sec. 1556) and 624 (U. S. C., title 19, sec. 1624) of the Tariff Act of 1930, Articles 256 and 949 of the Customs Regulations of 1931 are hereby amended as follows:

Article 256 is amended by adding thereto the following:

(c) Section 404, Title IV, Liquor Tax Administration Act, approved June 26, 1936, amends Section 311, Tariff Act of 1930, by adding the following:

Distilled spirits and wines which are rectified in bonded manufacturing warehouses, class six, and distilled spirits which are reduced in proof and bottled in such warehouses, shall be deemed to have been manufactured within the meaning of this section, and may be withdrawn as hereinbefore provided, and likewise for shipment in bond to Puerto Rico, subject to the provisions of this section, and under such regulations as the Secretary of the Treasury may prescribe, there to be withdrawn for consumption or be rewarehoused and subsequently withdrawn for consumption: *Provided,* That upon withdrawal in Puerto Rico for consumption, the duties imposed by the customs laws of the United States shall be collected on all imported merchandise (in its condition as imported) and imported containers used in the manufacture and putting up of such spirits and wines in such warehouses: *Provided further,* That no internal-revenue tax shall be imposed on distilled spirits and wines rectified in class six warehouses if such distilled spirits and wines are exported or shipped in accordance with the provisions of this section * * *.

(d) Upon the withdrawal for shipment to Puerto Rico of spirits and wines so manufactured, the warehouse withdrawal shall contain on the face thereof a statement of the kind and quantity of all imported merchandise (in its condition as imported) and imported containers used in the manufacture and putting up of such spirits and wines. The duty assessed on the imported merchandise and containers so used, and their classification and value, shall be shown on the withdrawal, in accordance with Article 319. If no imported merchandise or containers have been used, the warehouse withdrawal shall contain an endorsement to that effect.

(e) The spirits and wines shall be forwarded in accordance with the general provisions of the regulations governing the transportation of merchandise in bond (Chapter XVI).

Article 949 is amended by inserting "—(a)" after the title of the article and adding the following new paragraphs:

(b) Section 404, Title IV, Liquor Tax Administration Act, approved June 26, 1936, amends Section 311, Tariff Act of 1930, by adding the following:

Distilled spirits and wines which are rectified in bonded manufacturing warehouses, class six, and distilled spirits which are reduced in proof and bottled in such warehouses, shall be deemed to have been manufactured within the meaning of this section, and may be withdrawn as hereinbefore provided, and likewise for shipment in bond to Puerto Rico, subject to the provisions of this section, and under such regulations as the Secretary of the Treasury may prescribe, there to be withdrawn for consumption or be rewarehoused and subsequently withdrawn for consumption: *Provided,* That upon withdrawal in Puerto Rico for consumption, the duties imposed by the customs laws of the United States shall be collected on all imported merchandise (in its condition as imported) and imported containers used in the manufacture and putting up of such spirits and wines in such warehouses: *Provided further,* That no internal-revenue tax shall be imposed on distilled spirits and wines rectified in class six warehouses if such distilled spirits and wines are exported or shipped in accordance with the provisions of this section * * *.

(c) When such spirits and wines are withdrawn for shipment to Puerto Rico, the procedure outlined in Article 256 (d) and (e) shall be followed.

[SEAL] FRANK DOW,
Acting Commissioner of Customs.

Approved, July 31, 1936.

WAYNE C. TAYLOR,
Acting Secretary of the Treasury.

[F. R. Doc. 1591—Filed, August 5, 1936; 12:39 p. m.]

[T. D. 48462]

CUSTOMS REGULATIONS AMENDED—BOND—DEPOSIT OF ESTIMATED DUTIES—PERMIT

ARTICLE 309 (A) OF THE CUSTOMS REGULATIONS OF 1931, RELATING TO THE REQUIREMENT OF CONSUMPTION ENTRY BONDS, CUSTOMS FORMS 7551, 7553, AMENDED

To Collectors of Customs and Others Concerned:

Pursuant to the authority contained in sections 623 and 624, Tariff Act of 1930 (U. S. C., title 19, secs. 1623 and 1624), Article 309 (a) of the Customs Regulations of 1931, is hereby amended to read as follows:

When the importer desires the release from customs custody of any part of the merchandise before (1) the full amount of duties, including dumping or other special duties, and charges due thereon has been ascertained by liquidation of the entry, (2) before the right of such merchandise to admission into the United States, or to entry free of duty or at a reduced rate, has been determined by the proper officer, or (3) before any document relating thereto required by law or regulations has been furnished, he shall file a bond on Customs Form 7551 or 7553 or other appropriate form, at the time of entry or prior to such release. Such a bond shall not be required, however, when all of the merchandise in an importation has remained in customs custody until it has been inspected, examined, and appraised, and has been found to comply with the law and regulations governing its admission into the commerce of the United States, and until there have been produced all documents for the production of which a bond is required by law or regulations if not filed at time of entry.

[SEAL] FRANK DOW,
Acting Commissioner of Customs.

Approved, August 1, 1936.

WAYNE C. TAYLOR,
Acting Secretary of the Treasury.

[F. R. Doc. 1592—Filed, August 5, 1936; 12:39 p. m.]

DEPARTMENT OF THE INTERIOR.

Division of Territories and Island Possessions.

THE ALASKA RAILROAD, TRANSPORTATION DEPARTMENT

PASSENGER CIRCULAR NO. 125-E—FREIGHT CIRCULAR NO. 70-E

Anchorage, Alaska, July 17th, 1936.

Subject: Tanana Valley Fair.

To all concerned:

Account of Tanana Valley Fair at Fairbanks, August 27th, 28th, and 29th, 1936, this carrier will furnish free transportation for exhibits and also for caretakers of live stock exhibits in accordance with the following:

Exhibits must be billed to *Tanana Valley Fair* for exhibits to be made at Fairbanks; if desired, these exhibits may be billed in care of any party. When so billed, shipments will be handled free, using commercial waybill; in cases of caretakers in charge of live stock exhibits, including live fur-bearing animals, the number of caretakers together with their names will also be entered on the waybill, which will be authority for their transportation. Exhibits and Caretakers of Live Stock Exhibits Will Be Handled Only on Freight or Mixed Trains.

Exhibits will be returned free to originating station and will be handled as above, except shipments will be billed to party that originally made shipment, proper reference to be made on waybill that covered movement to Fairbanks.

Authority for the free return of exhibits from Fairbanks is cancelled with September 8th, 1936.

J. T. CUNNINGHAM,
Supt. of Transportation.

[F. R. Doc. 1552—Filed, August 4, 1936; 9:31 a. m.]

[I. C. C. No. 225]

THE ALASKA RAILROAD

LOCAL PASSENGER TARIFF NO. 183-A[1]

Naming round trip excursion fares from stations on the Alaska Railroad in Alaska to Fairbanks, Alaska, account Tanana Valley Fair, August 27, 28, 29, 1936.

Issued under authority of rule 52, Interstate Commerce Commission Tariff Circular No. 18-A.

Issued July 17, 1936; effective August 21, 1936.

Authority: Act, March 12, 1914; Executive Order No. 3861.

Issued by: O. F. Ohlson, general manager, Anchorage, Alaska.

General Rules and Regulations

1. *Stations from and to which this tariff applies.*—This tariff applies from all Rail Line stations.

This tariff applies only to Fairbanks, Alaska.

Conductor picking up passenger at non-agency station will handle passenger to first agency station, where ticket must be secured from originating station to final destination.

2. *Dates of sale.*—August 21, 22, 23, 24, 25, and 26, 1936.

3. *Final return limit.*—Return trip to be completed prior midnight of final limit.

Tickets sold from stations College, Alaska, to Curry, Alaska, inclusive, will be limited to September 2, 1936. Tickets sold from stations Lane, Alaska, to Seward, Alaska, inclusive, and Palmer, Alaska, to Sutton, Alaska, inclusive, will be limited to September 3rd, 1936.

4. *Stopovers.*—Stopovers will be permitted at all points within final return limit on both going and return trip. Stopover will be granted on application to Conductor, who will endorse on reverse side of ticket "Off at _____ Station, Date _____ Train No. _____." This endorsement will be signed by Conductor and transportation returned to passenger.

5. *Tickets.*—Use Form L-14 Round Trip Excursion Tickets.

6. *Children.*—Tickets may be sold at one-half the fares named herein for children five years of age and under twelve years of age, sufficient to be added to make fare end in "0" or "5." Children under five years of age will be carried free when accompanied by parent or guardian.

7. *Baggage.*—For baggage rules including free allowance, excess charge, etc., see Local Baggage Tariff No. 2, I. C. C. No. 22 (Alaskan Engineering Commission Series), supplements thereto and reissues thereof. Excess baggage charges will be made on basis of the one way fares shown in Local Passenger Tariff No. 42-B, I. C. C. No. 177, supplements thereto and reissues thereof.

8. *Tickets non-transferable.*—All tickets sold at fares named herein are non-transferable and will be valid only for transportation of passenger for whom originally purchased.

9. *Fares.*—One first class fare and a third for the round trip. First class fares are shown in Local Passenger Tariff No. 42-B, I. C. C. No. 177, supplements thereto and reissues thereof. Agents in selling round trip tickets under this tariff will add sufficient to make fare end in "0" or "5" for the round trip.

[F. R. Doc. 1551—Filed, August 4, 1936; 9:31 a. m.]

[Supplement No. 8 to I. C. C. No. 103[1]]

THE ALASKA RAILROAD

In connection with American Yukon Navigation Company (FX 2 No. 1), Alaska Steamship Company (FX 5 No. 5), Puget Sound Navigation Company (FX 5 No. 11), Puget Sound Freight Lines (FX 5 No. 16).

SUPPLEMENT NO. 8 TO JOINT FREIGHT TARIFF NO. 5-C[1]

Naming class and commodity rates between Seattle and Tacoma, Wash., and points on the Alaska Railroad, American Yukon Navigation Company in Alaska.

Governed, except as otherwise provided herein, by The Western Classification No. 65 (as published in Consolidated Freight Classification No. 10) R. C. Fyfe's I. C. C. No. 23, supplements thereto or successive reissues thereof.

Transportation service in connection with The Alaska Railroad, American Yukon Navigation Company, is subject to restoration and discontinuance as indicated in Item 250, Page 16 of tariff.

Issued July 18, 1936; effective August 1, 1936.

Authority: Act, March 12, 1914; Executive Order No. 3861.

Issued by: O. F. Ohlson, General Manager, Anchorage, Alaska.

Section 2—Commodity Rates

If the charge accruing under Section 1 of this Tariff is lower than the charge accruing under this section on the same shipment via the same route, the charge accruing under Section 1 will apply.

Item	Commodities	Stations		Rates in cents per 100 pounds except as shown
431	Fruit, fresh, viz, Peaches, in boxes or crates, carloads, minimum weight, 20,000 lbs.	From Seattle, Wash.	To Anchorage, Alaska.	R 200.

NOTE.—Shipments requiring cool room service on steamers from Seattle, Wash., to Seward, Alaska, will be subject to additional charge as provided in Item 255 of tariff for such service.

[F. R. Doc. 1550—Filed, August 4, 1936; 9:31 a. m.]

[1] No supplement will be issued to this tariff except for the purpose of cancelling the tariff.

[1] Supplements Nos. 4, 7, and 8, contain all changes from original tariff that are effective on the date hereof.

DEPARTMENT OF AGRICULTURE.

Agricultural Adjustment Administration.

ORDER SUSPENDING ORDER NO. 4, REGULATING THE HANDLING OF MILK IN THE GREATER BOSTON, MASSACHUSETTS, MARKETING AREA

Whereas, Henry A. Wallace, Secretary of Agriculture of the United States of America, acting under the provisions of the Agricultural Adjustment Act, as amended, for the purposes and within the limitations therein contained, and pursuant to the applicable General Regulations issued thereunder, did, on the 7th day of February 1936, issue under his hand, and the official seal of the Department of Agriculture, an order for Milk—Regulating the Handling of Milk in the Greater Boston, Massachusetts, Marketing Area, effective the 9th day of February 1936; and

Whereas, the Secretary of Agriculture has determined to suspend the further operation of the said Order:

Now, Therefore, the Secretary of Agriculture, acting under the authority vested in him as aforesaid, hereby suspends the further operation of the said Order No. 4, but any and all of the obligations which have arisen, or which may hereafter arise in connection therewith, by virtue of, or pursuant to, the operation of the said Order, to the effective date of this order of suspension, shall not be affected, waived, or terminated hereby.

In witness whereof, H. A. Wallace, Secretary of Agriculture of the United States of America, has executed this order suspending the further operation of the aforesaid Order in duplicate, and has hereunto set his hand and caused the official seal of the Department of Agriculture to be affixed in the city of Washington, District of Columbia, this 1st day of August 1936, and hereby declares that this order shall be effective on and after 12: 01 a. m., e. s. t., August 1, 1936.

[SEAL] H. A. WALLACE,
Secretary of Agriculture.

[F. R. Doc. 1578—Filed, August 5, 1936; 12:05 p. m.]

DEPARTMENT OF COMMERCE.

Bureau of Marine Inspection and Navigation.

[Resolution No. 3990–1]

RULES AND REGULATIONS FOR TANK VESSELS—APPENDIXES B AND C

APPENDIX B—LICENSED OFFICERS AND CERTIFICATED MEN

Outline of Sections

SECTION B–1—LICENSED OFFICERS

B–1–1. *Original Licenses.*

T/ALL. (a) The first license issued to any person by a United State inspector shall be considered an original license, where the United States records show no previous issue to such applicant.

Before an original license is granted to any person to act as master, mate, pilot, or engineer, he shall personally appear before some board of local inspectors for examination. Any person who has attained the age of 21 years and is qualified in all other respects shall be eligible for examination: *Provided,* That license as third mate, third assistant engineer, or second-class pilot may be granted to applicants who have reached the age of 19 years, and are qualified in all other respects: *Provided further,* That no such license may be raised in grade before the holder thereof shall have reached the age of 21 years.

(b) Inspectors shall, before granting an original license to any person to act as an officer of a vessel, require the applicant to make written application upon the blank form furnished by the Department of Commerce, to be filed in the inspectors' office. When practicable, applicants for license as master, mate, pilot, or engineer shall present to the inspectors, to be filed with their application discharges or letters from the master or other officer under whom they have served, certifying

to the name of the vessel and in what capacity the applicant has served under him; also period of such service. Inspectors shall also, when practicable, require applicant for pilot's license to have the written indorsement of the master and engineer of the vessel upon which he has served, and of one licensed pilot as to his qualifications. In the case of applicants for original engineer's license, they shall also, when practicable, have the indorsement of the master and engineer of a vessel on which they have served, together with one other licensed engineer.

(c) No original license shall be issued to any naturalized citizen on less experience in any grade than would have been required of a citizen of the United States by birth.

(d) Before granting an original license to any naturalized citizen to act as master, mate, pilot, or engineer, inspectors shall require the applicant to produce his naturalization certificate. In the event the applicant is without such certificate, or there is any doubt whatsoever about the citizenship of the applicant, he shall be required to produce a certificate from the proper United States naturalization officer certifying to the citizenship of the applicant.

(e) No applicant for a license who is a naturalized citizen and who has obtained his experience on foreign vessels shall be given a grade of license higher than that upon which he has actually served while acting under the authority of a foreign license and a portion of such service or experience shall be obtained within the 5 years preceding his application for examination.

(f) A record of every application for license, raise of grade, and extension of route, together with all examinations, medical certificates, and correspondence in connection therewith, shall be kept on file in the office of the local inspectors of the district.

(g) Wherever in these regulations reference is made to deck officers of steam vessels, that term shall extend to and include deck officers of motor vessels.

B–1–2. *Qualifications for License as Engineer of Steam Vessels.*

T/ALL. (a) No person shall receive an original license as engineer or assistant engineer of steam vessels (except for special license as engineer of a steam vessel of any kind of 10 gross tons or under on which a licensed engineer is required) who has not served at least 36 months in the engineers' department of a steam vessel, except as hereinafter provided, a portion of which experience shall have been obtained within the three years next preceding the application.

(b) No person shall receive license as above, except for special license, who is not able to determine the weight necessary to be placed on the lever of a safety valve (the diameter of valve, length of lever, distance from center of valve to fulcrum, weight of lever, and weight of valve and stem being known) to withstand any given pressure of steam in a boiler, or who is not able to figure and determine the strain brought on the braces of a boiler with a given pressure of steam, the position and distance apart of braces being known, such knowledge to be determined by an examination in writing, and the report of examination filed with the application in the office of the local inspectors, and no engineer or assistant engineer now holding a license shall have the grade of the same raised without possessing the above qualifications. No original license shall be granted any engineer or assistant engineer who can not read and write and does not understand the plain rules of arithmetic.

(c) No person holding a special engineer's license shall be eligible for examination for a higher grade of license until such person has actually served two years under the authority of his license and one additional year in a subordinate capacity upon steamers requiring regularly licensed officers.

(d) Inspectors may designate upon the certificate of any chief or assistant engineer the tonnage of the vessel upon which he may act.

B–1–3. *Medical Examination for Original License.*

T/ALL. (a) No candidate for original license as master, pilot, or engineer shall be examined until he presents a certificate from the United States Public Health Service, duly attested, that he has passed a satisfactory examination based on the contents of "The Ship's Medicine Chest and First Aid at Sea", or some other manual arranged for the purpose having the approval of the United States Public Health Service.

(b) No original license as master, mate, pilot, or engineer shall be issued except upon the official certificate of a surgeon of the United States Public Health Service respecting the eyesight, hearing, and physical condition of the applicant.

(c) Where from distance or other cause, except as hereinafter provided, an applicant would be put to great inconvenience or great expense to appear before a surgeon of the United States Public Health Service for examination, the certificate of a reputable physician may be accepted in lieu of the certificate of the Public Health Service, and the Director may waive the examination for a like cause: *Provided*, That in no case shall an original license as master, mate, or pilot be issued except upon the certificate of a surgeon of the United States Public Health Service respecting the acuity of vision and color sense of the applicant.

(d) In the event any license shall have been issued without the certificate of a surgeon of the United States Public Health Service, as provided for herein, the inspector who issued such license shall immediately make a written report of the circumstances of the case to the Director and retain a copy of such report in the office file containing the record of the applicant's examination for license.

(e) Applicants for license as engineer shall not be subjected to examination as to ability to distinguish colors.

B–1–4. *Medical Examination for Renewal of License and Raise of Grade.*

T/ALL. (a) No license as master, mate, or pilot shall be renewed or raise of grade granted except upon the official certificate of a surgeon of the United States Public Health Service that the color sense of the applicant is normal.

(b) Nothing herein contained shall debar an applicant who has lost the sight of one eye from securing a renewal of his license, provided he is qualified in all other respects.

(c) In the event an applicant for renewal of license is pronounced color blind, the inspectors may grant him a license limited to service during daylight only.

(d) Any person holding a license as mate on steamers navigating waters flowing into the Gulf of Mexico and their tributaries, issued prior to 1905, may have such license renewed without being subjected to the examination or color sense.

(e) Applicants for renewal of license or raise of grade as engineer shall not be subjected to examination as to ability to distinguish colors.

(f) In the event an inspector finds that an applicant for raise of grade or renewal of license obviously suffers from near-sightedness, eye disease, poor hearing, or some other physical or mental infirmity to a degree that, in the opinion of the inspector, would render him incompetent to perform the ordinary duties of an officer at sea, he shall be required to undergo an examination by a surgeon of the Public Health Service to determine his competency in such respects.

(g) If the applicant subsequently produces a certificate from the Public Health Service to the effect that his condition has improved to a satisfactory degree, or is normal, he shall be qualified in this respect.

(h) Where from distance, or other cause, the applicant would be put to great inconvenience or expense to appear before a surgeon of the Public Health Service for examination, the certificate of a reputable physician, or an oculist for vision or color sense, may be accepted in lieu of certificate of a surgeon of the Public Health Service.

B–1–5. *Professional examination and Service.*

T/ALL. (a) Before an applicant for original license as master, mate, pilot, or engineer, or raise of grade of any license, or any extension of route, may be examined, the applicant shall, if practicable, present to the inspectors discharges or letters certifying to the amount and character of his experience. If the amount and character of his experience is satisfactory and he is eligible in all other respects, the applicant shall be examined as to his knowledge, in writing, by a board of local inspectors.

(b) No applicant for a license who is a naturalized citizen and who has obtained his experience on foreign vessels shall be given a grade of license higher than that upon which he has actually served while acting under the authority of a foreign license, and a portion of such service or experience shall be obtained within the 5 years preceding his application for examination.

(c) When the application of any person for license has been approved, it shall be the duty of the inspectors to give the applicant the required examination as soon as practicable.

(d) If, however, applicants for license can not be examined without material delay by the inspectors of the district in which the applicant resides or is employed, said local inspectors shall endeavor, through the supervising inspector of the district, to arrange for such examination by some other board of local inspectors.

B–1–6. *Substituting Service in Next Lower Grade for Raise of Grade.*

T/CC. (a) Except as hereinafter provided, an applicant who has served in a lower grade than that for which he is licensed may substitute service in the grade next below that for which he is licensed, which service shall count one-half in computing experience for raise of grade. For example, if an applicant while holding license as chief mate or first assistant engineer serves nine months as chief mate or first assistant engineer and six months in the next lower grade, the six months' service shall count as three months in the higher grade in either case.

B–1–7. *Indorsement of Masters' or Mates' License as Pilot.*

T/ALL. (a) Whenever a master or mate desires to act in the double capacity of master and pilot, or mate and pilot, and furnishes the necessary evidence of his qualifications, the local inspectors shall indorse such pilot routes on the certificate of license.

B–1–8. *Extension of Pilot Route.*

T/L. B. R. (a) Whenever any pilot applies to a board of local inspectors for an extension of route over waters within their jurisdiction, he shall make written application on form furnished by department, stating the extension desired, and shall be examined, in writing, on the aids to navigation on such extension and upon such other matters as they may deem necessary and, if found qualified, such extension shall be indorsed upon his license.

(b) Local inspectors may indorse a pilot's license for authority to act on waters outside of their jurisdiction subject to the examination and approval of the local inspectors having jurisdiction. Local inspectors, to whom such application is made, may request the board of local inspectors having jurisdiction over the waters for which such additional authority is desired to forward them a list of questions and subjects upon which the applicant is to be examined, which examination shall be returned to the local inspectors having jurisdiction, and if they are satisfied from the examination that the applicant is capable the board having jurisdiction shall grant the authority and advise the other board to indorse the license accordingly. The applicant for such indorsement for extension of authority shall make written application upon form furnished by the department.

B–1–9. *Master, Mate, and Pilot of Steam Pilot Vessels or Vessels in Puerto Rican and Hawaiian Waters.*

T/OC. (a) Any applicant for original license to act as master of steam or sail vessels navigating between ports of the Hawaiian Islands, or between ports of the island of Puerto Rico, shall have had at least three years' experience in the deck department of such vessels, and except as hereinafter provided, for an original license as mate the applicant shall have had two years' experience in the deck department of such vessels, which fact shall be verified by documentary evidence; and such applicant shall only be subjected to such examination as shall satisfy the inspectors that the applicant is capable of navigating such vessels. The license issued under this section shall state in the body thereof "for coastwise only", Pacific or Atlantic coast, as the case may be, and between what ports on either of said coasts.

(b) *It is further provided,* That any applicant for original license who has had three years' experience in the deck department on steam pilot boats, or who has had two years' experience in the deck department on steam pilot boats and one year's experience on sail pilot boats, shall be eligible for examination for license as mate on steam pilot boats.

(c) *It is further provided,* That said master's or mate's license may be indorsed as pilot on such inland waters on the above-named coasts as the local inspectors at the various ports may find the holder qualified to act on as pilot, after examination by the local inspectors, such examination to be in writing and preserved in the files of the inspector's office.

B–1–10. *Extension of Route and Raise of Grade of Licenses.*

T/ALL. (a) Licensed officers serving under five years' license, entitled by license and service to raise of grade, after passing examination, shall have issued to them new licenses for the grade for which they are qualified, the local inspectors to file in their office the old license when surrendered, with the report of the circumstances of the case, but the grade of no license shall be raised except as hereinafter provided, unless the applicant can show one year's actual experience in the capacity for which he has been licensed.

(b) Inspectors shall, before granting an extension of route or raise of grade of license, require the applicant to make his written application upon the blank form of application for extension of route or raise of grade of license furnished by the department. When practicable, applicants for extension of route or raise of grade of license shall present to the inspectors, to be filed with the application, discharges or letters from the master or other officer under whom they have served, or other satisfactory documentary evidence, certifying to the name of the vessel and in what capacity the applicant has served; also period of such service.

(c) If any board of local inspectors is satisfied by the documentary evidence submitted that a pilot is entitled by experience and knowledge to unlimited tonnage, it may remove any tonnage restrictions which may have been placed upon his license by any other board of local inspectors.

(d) Except as hereinafter provided, practical service in the deck department of an ocean or coastwise vessel propelled by machinery shall be accepted when offered in documentary evidence by any person applying for an original license or raise of grade as equal to the same amount of service in any ocean or coastwise steam passenger vessel.

(e) Service on United States lighthouse tenders propelled by machinery shall be considered as equivalent experience for raise of grade as that obtained on vessels subject to inspection by this service.

(f) Service on United States light vessels propelled by machinery shall be considered as one-half experience for raise of grade as that obtained on vessels subject to inspection by this service.

B–1–11. *Laws, General Rules and Regulations and Pilot Rules to be Furnished Licensed Officers.*

T/ALL. Every master, mate, pilot, and engineer of vessels shall, when receiving an original license, a renewed license, or a raise of grade of license, be furnished by the inspectors with a copy of an official publication containing the Inspection Laws governing the Bureau, and a copy of the General Rules and Regulations Prescribed by the Board of Supervising Inspectors, and every master and pilot of vessels including those applicable to tank vessels or motor vessels shall, when receiving an original license, a renewed license, or a raise of grade of license, be furnished by the inspectors with a pamphlet copy of the rules and regulations governing pilots and of the statutes upon which such rules are founded, applicable to the waters on which their licenses are intended to be used, as stated in the body thereof.

Licensed officers are required to acquaint themselves with the latest information published by the Department of Commerce regarding aids to navigation, and neglect to do so is evidence of neglect of duty. It is desirable that vessels

navigating oceans and coastwise and Great Lakes waters, shall have available in the pilot house for convenient reference at all times, a file of the Department of Commerce weekly, Notice to Mariners.[1]

B–1–12. *Preparation of Licenses.*

T/ALL. (a) All licenses hereafter issued to masters, mates, pilots, and engineers shall be filled out on the face with pen and black ink instead of typewritten. Inspectors are directed, when licenses are completed, to draw a broad pen and black-ink mark through all unused spaces in the body thereof, so as to prevent, as far as possible, illegal interpolation after issue.

(b) Licenses signed by one local inspector only shall not be valid, nor shall the name of a regular inspector be substituted by that of any other person upon such certificate.

(c) Every person receiving license or a certificate of lost license shall sign the same and leave a print of his left thumb upon the back thereof, immediately upon its receipt.

(d) Local inspectors will be provided with a blank sheet to be attached to the license when more space is needed for endorsements. This sheet shall be securely glued to the license in a manner so that it may be folded under the license.

(e) The sheet shall bear the signature and thumbprint of the holder as is required for licenses, and shall be inscribed with the words, "Serial Number", "Issue Number", "This license expires _____" (in red ink), as appear on licenses. These data shall be identical with those which appear on the license.

B–1–13. *Renewal of License.*

T/ALL. (a) Whenever an officer shall apply for a renewal of his license for the same grade, the presentation of the old license, with satisfactory certificate of visual examination, where required, and with oath of office, shall be considered sufficient evidence of his title to renewal, which old license and oath of office shall be retained by the inspectors upon their official files as the evidence upon which the license was renewed: *Provided,* That it is presented within 12 months after the date of its expiration, unless such title has been forfeited or facts shall have come to the knowledge of the inspectors which would render a renewal improper; nor shall any license be renewed more than 30 days in advance of the date of the expiration thereof, unless there are extraordinary circumstances that shall justify a renewal beforehand, in which case the reasons therefor must appear in detail upon the records of the inspectors renewing the license.

(b) It shall be the duty of all inspectors, before renewing an existing license to a master or pilot of steam vessels, for any waters, who has not been employed as master or pilot on such waters during the three years preceding the application for renewal, to satisfy themselves, by an examination in writing, or orally, to be taken down in writing by the inspectors, that such officers are thoroughly familiar with the pilot rules upon the waters for which they are licensed.

(c) Whenever an officer shall apply for renewal of his license for same grade, after 12 months after the date of its expiration, he shall be required to pass an examination for the same grade of license. The renewed license in either case shall receive the next higher number for number of issue of present grade and for number of issues of all grades.

(d) Whenever a licensed officer makes application for a renewal of his license, he shall appear in person before some board of local inspectors or supervising inspector, except that upon renewal of such license for the same grade, when the distance from any local board or supervising inspector is such as to put the person holding the same to great inconvenience and expense to appear in person, he may, upon taking oath of office before any person authorized to administer oaths, and forwarding the same, together with the license to be renewed and certificate of visual examination where required, to the local board or supervising inspector of the district in which he resides or is employed, have the same renewed by the said inspectors, if no valid reason to the contrary be known to them; and they shall attach such oath to the stub end of the license, which is to be retained on file in their office: *Provided, however,* That any officer holding a license, and who is engaged in a service which necessitates his continuous absence from the United States, may make application in writing for renewal and transmit the same to the board of local inspectors, with his certificate of citizenship, if naturalized, and a statement of the applicant, verified before a consul or other officer of the United States authorized to administer an oath, setting forth the reasons for not appearing in person; and upon receiving the same the board of local inspectors that originally issued such license shall renew the same and shall notify the applicant of such renewal, and no license as master, mate, or pilot of any class of vessel shall be renewed without furnishing a satisfactory certificate of color blindness.

B–1–14. *Reexaminations and Refusal of Licenses.*

T/ALL. (a) Any applicant for license who has been duly examined and refused may come before the same local board for re-examination at any time thereafter that may be fixed by such board, but he shall not be examined by any other local board until one year has expired from the date of the refusal without the sanction of the board that refused the applicant.

(b) If the inspectors shall decline to grant the applicant the license asked for, they shall furnish him a statement, in writing, setting forth the cause of their refusal to grant the same.

B–1–15. *Parting with License.*

T/ALL. (a) Any license granted to a master, mate, pilot, or engineer, shall be immediately revoked if, for any purpose, the holder thereof voluntarily parts with its possession or places it beyond his personal control by pledging or depositing it with another.

B–1–16. *Lost License.*

T/ALL. (a) In case of loss of license of any class from any cause any board of local inspectors upon receiving satisfactory evidence of such loss and a record of the lost license from the board that issued same shall issue a certificate to the owner thereof, which shall have the authority of the lost license for the unexpired term, unless in the meantime the holder thereof shall have the grade of his license raised after due examination, in which case a license in due form for such grade may be issued. In all cases where a certificate of lost license is issued by a board other than the board that issued the lost license the certificate of lost license shall state what board issued the lost license.

(b) Whenever a license is reported to a board of local inspectors by a licensed officer as having been stolen from him, or whenever a license is stolen from an office of local inspectors, the local inspectors shall immediately report the fact in either case to the Director and give a full description of the license.

(c) Whenever a license is reported by a board of local inspectors by a licensed officer as having been lost by him, the local inspectors shall immediately report the fact by letter to the Director and give a full description of the license, and all facts incident to the loss of the license. By the same procedure they shall report the recovery of any licenses reported lost, giving the facts incident to their recovery.

B–1–17. *Suspension and Revocation of Licenses.*

T/ALL. (a) When the license of any master, mate, pilot, or engineer is revoked, such license expires with such revocation, and any license subsequently granted to such person shall be considered in the light of an original license except as to number of issue. And upon the revocation or suspension of the license of any such officer said license shall be

[1] Notice to Mariners, published weekly by the Department of Commerce, which contains announcements and information regarding aids to navigation and charts of waters of the United States, is available for free distribution at the following places: Marine Division, Customhouses; Local Inspectors, Bureau of Marine Inspection and Navigation; Shipping Commissioners; U. S. Coast and Geodetic Survey field stations; and offices of the Superintendents of Lighthouses.

surrendered to the local inspectors or supervising inspector ordering such suspension or revocation.

(b) When the license of any master, mate, engineer, or pilot is suspended, the inspectors making such suspension shall determine the term of its duration, except that such suspension shall not extend beyond the time for which the license was issued.

(c) The suspension or revocation of a joint license shall debar the person holding the same from the exercise of any of the privileges therein granted, so long as such suspension or revocation shall remain in force.

B–1–18. *Misconduct of Licensed Officers.*

T/ALL. (a) Whenever a supervising, local, or assistant inspector of steam vessels, or any of them, shall find on board any vessel subject to the provisions of these regulations any licensed officer under the influence of liquor or other stimulant to such an extent as to unfit him for duty; or when any licensed officer shall use abusive or insulting language to any inspector or assaults any such inspector while on official duty, the local inspectors or the supervising inspector shall immediately suspend the license of the officer so offending.

(b) The fact of a licensed officer being under the influence of liquor in the presence of the inspector or inspectors to such an extent as to unfit him for duty while on board a vessel shall be sufficient cause for suspension or revocation.

B–1–19. *Licenses to Officers of Vessels Owned by the United States.*

T/ALL. Any person who has served at least one year as master, commander, pilot, or engineer of any steam vessel owned and operated by the United States in any service in which a license as master, mate, pilot, or engineer was not required at the time of such service shall be entitled to license as master, mate, pilot, or engineer, if the inspectors, upon written examination, as required for applicants for original license, may find him qualified: *Provided*, That the experience of any such applicant within three years of making application has been such as to qualify him to serve in the capacity for which he makes application to be licensed.

SECTION B–2—CERTIFICATED MEN

B–2–1. *Able Seamen.*

TB/O. C. L. B. (a) An applicant for examination for certificate of service as able seaman shall be eligible for examination after he has furnished satisfactory documentary evidence that he has had the experience required by law. Before a certificate may be granted to such applicant he must prove to the satisfaction of the local inspectors, by an oral and written examination and an actual demonstration, that he has been trained in all the operations connected with launching lifeboats, and life rafts, and the use of oars and sail; that he is acquainted with the practical handling of the boats themselves; and, further, that he is capable of taking command of a boat's crew.

(b) The oral examination shall consist of questions regarding the construction of lifeboats and life rafts, the names of their different parts, and a description of the required equipment; clearing away, swinging out, and lowering boats and rafts; handling boats under oars and sail, including questions relative to the proper handling of a boat in running before a heavy sea, in pulling into a sea, etc.; the construction and functions of the gravity, radial, and bar types of davits; knowledge of nautical terms; boxing the compass, by degrees or points, according to the experience of the applicant; a few of the principal knots, bends, splices, and hitches in common use, and also his knowledge in handling the wheel by obeying orders passed to him as "wheelman", and of the use of engine telegraphs or bell-pull signals.

(c) The written examination shall consist of questions regarding the running lights for steam and sailing vessels on the sea, inland waters, or Great Lakes, and fog signals, according to the waters on which the applicant has served; passing signals for vessels meeting or passing under ordinary conditions.

(d) The applicant shall demonstrate his ability by taking command of a boat's crew and directing the operation of clearing away, swinging out, and lowering a boat into the water, and acting as coxswain in charge of the boat under oars and sail. The candidate will also demonstrate his ability to pull an oar.

(e) The certificate and stub shall bear an imprint of the left thumb of the holder on the back thereof.

B–2–2. *Certificated Lifeboat Men.*

TB/O. C. L. B. (a) An applicant for certificate as lifeboat man shall be eligible for examination after he has furnished satisfactory evidence to the examiner that he has had the following experience: Not less than 12 months' sea service in the deck department; or, not less than 24 months' sea service in other departments. Sea service means actual experience on board vessels in ocean, lake, bay, or sound service.

(b) Before a lifeboat man's certificate may be granted the applicant must prove to the satisfaction of the examiner that he has been trained in all the operations connected with launching lifeboats and life rafts and the use of oars and sail; that he is acquainted with the practical handling of the boats themselves; and, further, that he is capable of understanding and answering the orders relative to lifeboat service.

(c) The oral examination shall consist of questions regarding the construction of lifeboats and life rafts, the names of their different parts, and a description of the equipment required; the construction and functions of the gravity, radial, and round-bar types of davits; clearing away, swinging out, and lowering boats and rafts; handling boats under oars and sails; and nautical terms used in connection with launching and handling lifeboats.

(d) The practical examination shall consist of a demonstration of the applicant's ability to carry out the orders incident to launching lifeboats, and the use of the boat's sail, and to row.

(e) The certificate, Bureau record, and the stub shall bear an imprint of the left thumb of the holder on the back thereof.

B–2–3. *Certificated Tanker Men.*

TB/ALL. (a) Any applicant for a certificate as tanker man, not licensed as Master or Mate, shall be eligible for examination after he has furnished satisfactory documentary evidence to the local inspectors that he is trained in, and capable efficiently to perform, the necessary operations on tank vessels which relate to the handling of cargo.

(b) Such applicant shall secure from the United States Public Health Service, or from a reputable physician, acceptable to the local inspectors, a certificate that he is in good physical condition.

(c) Before a certificate may be granted to such an applicant he must prove to the satisfaction of the local inspectors by an oral or written examination that he is familiar with the general arrangement of cargo tanks, suction and discharge pipe lines and valves, cargo pumps and cargo hose, and has been properly trained in the actual operation of cargo pumps, all other operations connected with the loading and discharging of cargo, and the use of fire extinguishing equipment.

(d) Applicants successfully passing such examination shall receive a certificate as Tanker man, stating the kinds or grades of liquid cargo the holder is qualified to handle. The back of such certificate and the stub shall bear an imprint of the left thumb of the holder.

(e) Such certificate shall be subject to suspension or revocation on the same grounds and in the same manner and with like procedure as is provided in the case of suspension or revocation of licenses of officers under these regulations.

(f) The certificate as Tanker man shall be surrendered to the local inspectors by the holder upon the granting to him of a license as master or mate. Such surrendered certificates shall be retained by the local inspectors in their files.

SECTION B–3—QUALIFICATIONS FOR OFFICERS-OCEANS

B–3–1. *Master of Steam Vessels.*

T/O. An applicant for license as master of ocean steam vessels shall be eligible for examination after he has furnished

satisfactory documentary evidence to the local inspectors that he has had the following experience and is qualified in all other respects:

FIRST. One year's service as chief mate of ocean steam vessels of 1,000 gross tons or over; or

SECOND. One year's service as chief mate of coastwise steam vessels of 2,000 gross tons or over; or

THIRD. Two years' service as second mate of ocean steam vessels of 1,000 gross tons or over while holding a license as chief mate of such vessels; or

FOURTH. Two years' service as second mate of coastwise steam vessels of 2,000 gross tons or over while holding a license as chief mate of such vessels; or

FIFTH. One year's service as master of coastwise steam vessels of 2,000 gross tons or over; or

SIXTH. Two years' service as master of ocean or coastwise sail vessels of 700 gross tons or over, for license as master of freight or towing steam vessels of not more than 3,000 gross tons; or

SEVENTH. Thirty-six months' service as master of steam vessels of 4,000 gross tons or over upon the waters of the Great Lakes, together with 12 months' service as second mate of ocean steam vessels of 1,000 gross tons or over.

B–3–2. *Examination for Master of Steam Vessels.*

T/O. An applicant for license as master of ocean steam vessels shall pass a satisfactory examination as to his knowledge of the following subjects:

1. Latitude by Polaris.
2. Latitude by reduction to meridian (sun, moon, or star).
3. Longitude by chronometer (sun, moon, or star).
4. Position finding by two or more heavenly bodies out of the meridian.
5. Position finding by dead reckoning.
6. Great circle sailing.
7. Azimuth by altitudes of sun, moon, or star.
8. Construction deviation table by bearings of a fixed object.
9. Chart navigation.
10. Time of high water by calculation.
11. Cargo handling.
12. Fuel conservation.
13. Signaling by semaphore and blinker.
14. Stability and hull construction.
15. International Code of Signals.
16. International Rules of the Road.
17. Life-saving apparatus.
18. Deviation and compass compensation.
19. Ocean winds, weather, and currents.
20. Instruments and accessories used in navigation.
21. Aids to navigation.
22. Seamanship.
23. Chart construction.
24. Ship sanitation.
25. United States Navigation Laws.
26. Rules and Regulations of the Board of Supervising Inspectors.
27. Such further examination of a nonmathematical character as the local inspectors may require.

B–3–3. *Chief Mate of Steam Vessels.*

T/O. Any applicant for license as chief mate of ocean steam vessels shall be eligible for examination after he has furnished satisfactory documentary evidence to the local inspectors that he has had the following experience and is qualified in all other respects:

FIRST. One year's service as second mate of ocean steam vessels of 1,000 gross tons or over; or,

SECOND. One year's service as second mate of coastwise steam vessels of 2,000 gross tons or over; or,

THIRD. Two years' service as officer in charge of a watch on ocean steam vessels of 1,000 gross tons or over while holding a license as second mate of such vessels; or,

FOURTH. Two years' service as officer in charge of a watch on coastwise steam vessels of 2,000 gross tons or over while holding a license as second mate of such vessels; or,

FIFTH. Two years' service as master of lake, bay, or sound steam vessels of 1,000 gross tons or over, together with one year's service as officer in charge of a watch on ocean steam vessels of 1,000 gross tons or over, or together with one year of such service on coastwise steam vessels of 2,000 gross tons or over; or,

SIXTH. Five years' service in the deck department of ocean or coastwise mail vessels of 200 gross tons or over, two years of such service shall have been as master of such vessels, for license as chief mate of ocean freight or towing steam vessels of not more than 3,000 gross tons; or,

SEVENTH. One year's service as master of any class of ocean steam vessels of more than 250 gross tons for license as chief mate of ocean freight or towing steam vessels of not more than 1,500 gross tons.

B–3–4. *Examination for License as Chief Mate of Steam Vessels.*

T/O. An applicant for license as chief mate of ocean steam vessels shall be required to pass a satisfactory examination as to his knowledge of the following subjects:

1. Latitude by Polaris.
2. Latitude by reduction to meridian (sun or star).
3. Longitude by chronometer (sun or star).
4. Ship's position by lines of position.
5. Ship's position by dead reckoning.
6. Azimuth by altitude of sun or star.
7. Chart navigation.
8. Time of high water by tables.
9. Speed by engine revolutions.
10. Distance off a fixed object.
11. Change in draft due to change in density of water.
12. Signaling by semaphore.
13. Cargo handling.
14. International Code of Signals.
15. International Rules of the Road.
16. Life-saving apparatus.
17. Magnetism, with regard to a ship's compass.
18. Ocean winds and weather.
19. Instruments and accessories used in navigation.
20. Aids to navigation.
21. Seamanship.
22. Temporary repairs to hull and equipment.
23. Ship sanitation.
24. United States Navigation Laws.
25. Rules and Regulations of the Board of Supervising Inspectors.
26. Such further examination of a nonmathematical character as the local inspectors may require.

B–3–5. *Second Mate of Steam Vessels.*

T/O. Any applicant for license as second mate of ocean steam vessels shall be eligible for examination after he has furnished satisfactory documentary evidence to the local inspectors that he has had the following experience and is qualified in all other respects:

FIRST. One year's service as third mate of ocean or coastwise steam vessels; or,

SECOND. Five years' service in the deck department of ocean or coastwise steam vessels, two years of which shall have been as boatswain or quartermaster; or,

THIRD. Any graduate of the United States Naval Academy or the U. S. Coast Guard Academy who has had not less than two training cruises, together with three months' service in the deck department of ocean or coastwise steam vessels; or,

FOURTH. A graduate who has served two years in the seamanship class of a State nautical school ship, established under authority of an act of Congress approved March 4, 1911, and completed two ocean or coastwise cruises before graduation, together with two years' service in the deck department of an ocean or coastwise steam vessel of 500 gross tons or over: *Provided*, That where the graduate has completed the two cruises, but not the two years' service required, additional service equal to the difference in time shall be served on vessels of the class required for the probationary period of two years; or,

FIFTH. Four years' service in the deck department of ocean or coastwise sail vessels of 200 gross ton or over; one year of such service shall have been as second mate of such vessels; or,

SIXTH. Three years' service in the deck department of any ocean or coastwise sail vessel of 100 gross tons or over, together with one year's service in the deck department of ocean or coastwise steam vessels, for license as second mate of ocean or coastwise steam vessel of 1,000 gross tons or under; or,

SEVENTH. One year's service as master or first-class pilot of lake, bay, or sound steam vessels of 500 gross tons or over, except ferry vessels, together with one year's service in the deck department of ocean or coastwise steam vessels of 1,000 gross tons or over, while holding a license as such master or first-class pilot; or,

EIGHTH. Two years' service as assistant (junior officer of the watch) to the officer in charge of the watch on ocean steamers while holding a license as third mate of such steam vessels.

B–3–6. *Examination for License as Second Mate of Steam Vessels.*

T/O. An applicant for license as second mate of ocean steam vessels shall be required to pass a satisfactory examination as to his knowledge of the following subjects:

1. Latitude by meridian altitude of the sun or a star.
2. Longitude by sun or star.
3. Deviation of the compass by amplitude.
4. Deviation of the compass by azimuth tables.
5. Ship's position by dead reckoning.
6. Distance off a fixed object.
7. Chart navigation.
8. Mercator sailings.
9. Determination of area and volume.
10. Storm signals.
11. International Rules of the Road.
12. International Code of Signals.
13. Cargo handling.
14. Signaling by blinker.
15. Life-saving apparatus.
16. Instruments and accessories used in navigation.
17. Seamanship.
18. Nautical astronomy definitions.
19. Aids to navigation.
20. Rules and Regulations of the Board of Supervising Inspectors.
21. Such further examination of a nonmathematical character as the local inspectors may require.

B–3–7. *Third Mate of Steam Vessels.*

T/O. Any applicant for license as third mate of ocean steam vessels shall be eligible for examination after he has furnished satisfactory documentary evidence to the local inspectors that he has had the following experience and is qualified in all other respects:

FIRST. Three years' service in the deck department of ocean or coastwise steam vessels; or

SECOND. Any applicant who has had three years' training at the United States Naval Academy or Coast Guard Academy, and who has had not less than two training cruises; or

THIRD. A graduate who has served two years in the seamanship class of a State nautical school ship, established under authority of an act of Congress approved March 4, 1911, and completed two ocean and coastwise cruises before graduation: *Provided,* That where the graduate has completed the two cruises, but not the two years' service required, additional service equal to the difference in time shall be served in the deck department of ocean or coastwise steam vessels; or

FOURTH. Three years' service in the deck department of ocean or coastwise sail vessels of 100 gross tons or over, together with one year's service in the deck department of ocean or coastwise steam vessels. Service on such sail vessels engaged in the ocean or coastwise fisheries shall be accepted as meeting the requirements of this paragraph; or

FIFTH. One year's service as master or pilot of lake, bay, or sound steam vessels of 150 gross tons or over, except ferry vessels, together with three months' service in the deck department of ocean or coastwise steam vessels; or,

SIXTH. Three years' service in the deck department of lake, bay, sound, or river steam vessels, together with one year's service in the deck department of ocean or coastwise steam vessels; or,

SEVENTH. Two years' service as a licensed first-class pilot of steam vessels of 4,000 gross tons or over, except ferry vessels, on the Great Lakes or other lakes, bays or sounds; or,

EIGHTH. Three years' service in the deck department of steam vessels of 100 gross tons or over, engaged in the ocean or coastwise fisheries, together with six months' experience in the deck department of ocean or coastwise steam vessels.

B–3–8. *Examination for License of Third Mate of Steam Vessels.*

T/O. An applicant for license as Third Mate of ocean steam vessels shall be required to pass a satisfactory examination as to his knowledge of the following subjects:

1. Latitude by meridian altitude of the sun.
2. Longitude by chronometer.
3. Deviation of the compass by tables.
4. Ship's position by dead reckoning.
5. Middle latitude sailing.
6. Distance off by bearings and run.
7. Chart navigation.
8. International Rules of the Road.
9. Cargo handling.
10. Storm signals.
11. Sea terms.
12. Seamanship.
13. Instruments and accessories used in navigation.
14. Rules and Regulations of the Board of Supervising Inspectors.
15. Such further examination of a nonmathematical character as the local inspectors may require.

B–3–9. *Chief Engineer of Steam Vessels.*

T/O. An applicant for license as chief engineer of ocean steam vessels shall be eligible for examination after he has furnished the following documentary evidence to the local inspectors and is qualified in all other respects:

FIRST. One year's service as first assistant engineer of ocean or coastwise steam vessels; or,

SECOND. Two years' service as second assistant engineer of ocean or coastwise steam vessels while holding license as first assistant engineer of such vessels; or,

THIRD. Two years' service as junior first assistant engineer of ocean or coastwise steam vessels while holding license as first assistant engineer of such vessels; or,

FOURTH. One year's service as assistant engineer of ocean or coastwise steam vessels for license as chief engineer of ocean or coastwise steam vessels of not more than 750 gross tons; or,

FIFTH. Three year's service as chief engineer of Great Lakes and all other lake, bay, or sound steam vessels, except ferry vessels, for license as chief engineer of appropriate tonnage.

B–3–10. *First Assistant Engineer of Steam Vessels.*

T/O. An applicant for license as first assistant engineer of ocean steam vessels shall be eligible for examination after he has furnished satisfactory documentary evidence to the local inspectors that he has had the following experience and is qualified in all other respects:

FIRST. One year's service as second assistant engineer of ocean or coastwise steam vessels; or,

SECOND. Three years' service as first assistant engineer of Great Lakes and all other lake, bay, or sound steam vessels, except ferry vessels, for license as first assistant engineer of appropriate tonnage; or,

THIRD. Two years' service as third assistant engineer of ocean or coastwise steam vessels while holding license as second assistant engineer of such vessels; or,

FOURTH. Three years' service as oiler, water tender, or fireman in the engine department of ocean or coastwise steam vessels, at least one year of such service shall have been as oiler or water tender, for license as first assistant engineer of steam vessels of not more than 750 gross tons; or,

FIFTH. Two years' service as junior second assistant engineer while holding license as second assistant engineer of such vessels.

B–3–11. *Second Assistant Engineer of Steam Vessels.*

T/O. An applicant for license as second assistant engineer of ocean steam vessels shall be eligible for examination after he has furnished satisfactory documentary evidence to the local inspectors that he has had the following experience and is qualified in all other respects:

FIRST. One year's service as third assistant engineer of ocean or coastwise steam vessels; or,

SECOND. Three years' service as second assistant engineer of Great Lakes and all other lake, bay, or sound steam vessels, except ferry vessels, for license as second assistant engineer of appropriate tonnage; or,

THIRD. Five years' actual service in the engine department of an ocean or coastwise steam vessel, four years of which shall have been as oiler or water tender; or,

FOURTH. Three years' service as an apprentice to the machinist trade and engaged in construction or repair of marine, stationary, or locomotive engines, and one year's service as a journeyman machinist engaged in the construction or repair of marine steam engines, together with one year's service in the engine department of ocean or coastwise steam vessels; or,

FIFTH. Two years' service as junior third assistant engineer while holding license as third assistant engineer; or,

SIXTH. A graduate in mechanical, marine, or electrical engineering from a duly recognized school of technology, together with 1 year's service in the engine department of an ocean or coastwise steam vessel.

B–3–12. *Third Assistant Engineer of Steam Vessels.*

T/O. An applicant for license as third assistant engineer of ocean steam vessels shall be eligible for examination after he has had the following experience and is qualified in all other respects:

FIRST. Four years' service as fireman on ocean or coastwise steam vessels; or,

SECOND. Three years' service as oiler, or water tender, or combined service of three years in these positions, on ocean or coastwise steam vessels; or,

THIRD. Three years' service as licensed engineer of steam vessels on lakes, bays, sounds, and rivers, for license of appropriate tonnage; or,

FOURTH. One year's service as chief or assistant engineer of river steam vessels, together with six months' service in the engine department of ocean or coastwise steam vessels; or,

FIFTH. A graduate from the engineering class of a State nautical school ship, established under authority of an act of Congress approved March 4, 1911, the term of such engineering class to be based upon a period of two years; or,

SIXTH. Three years' service as an apprentice to the machinist trade and engaged in the construction or repair of marine, stationary, or locomotive engines, together with one year's service in the engine department of ocean or coastwise steam vessels; or,

SEVENTH. A graduate in mechanical, marine, or electrical engineering from a duly recognized school of technology together with three months' service in the engine department of an ocean or coastwise steam vessel.

B–3–13. *Engineers of Motor Vessels.*

T/O. The term "motor vessel" used in this and the following sections shall include any vessel of above 15 gross tons, propelled by gas, fluid, naptha, or electric motors.

No person shall receive an original license as engineer of motor vessels who has not served at least 36 months in the engine department of a motor vessel, except as hereinafter provided, at least 25 percent of which service shall have been obtained within the three years next preceding the application.

Inspectors may designate upon the certificate of any chief or assistant engineer the tonnage of the vessel upon which he may act.

B–3–14. *Chief Engineer of Motor Vessels.*

T/O. An applicant for license as chief engineer of motor vessels shall be eligible for examination after he has furnished satisfactory documentary evidence to the local inspectors that he has had the following experience and is qualified in all other respects:

FIRST. One year's service as first assistant engineer of motor vessels; or,

SECOND. Two years' service as second assistant engineer of motor vessels, or two years' combined service as first and second assistant engineer of motor vessels; or,

THIRD. One year's service as assistant engineer on motor vessels of 750 gross tons and under; or,

FOURTH. Any person holding a license as chief engineer of steam vessels who has served at least three months as licensed first assistant engineer of motor vessels; or,

FIFTH. Any person holding license as chief engineer of steam vessels who has served six months as oiler in the engine department of motor vessels; or has been employed for not less than three months in the construction or installation of marine motor engines together with three months' service as oiler in the engine department of motor vessels; or,

SIXTH. Any person who has served at least two years in the engine department of motor vessels, or has had at least one year's experience in the construction or installation of marine motor engines, together with one year's service in the engine department of motor vessels, shall be eligible for examination for license as chief engineer of motor vessels of not more than 300 gross tons.

B–3–15. *First Assistant Engineer of Motor Vessels.*

T/O. An applicant for license as first assistant engineer of motor vessels shall be eligible for examination after he has furnished satisfactory documentary evidence to the local inspectors that he has had the following experience and is qualified in all other respects:

FIRST. One year's service as second assistant engineer of motor vessels; or,

SECOND. Two years' service as third assistant engineer of motor vessels, or two years' combined service as second and third assistant engineer of motor vessel; or,

THIRD. Three years' service as oiler in the engineer department of motor vessels, for license as first assistant engineer of motor vessels of 750 gross tons and under; or,

FOURTH. Any person holding a license as first assistant engineer of steam vessels who has served at least three months as licensed second assistant engineer of motor vessels; or,

FIFTH. Any person who has served at least two years in the engine department of motor vessels, or has had at least one year's experience in the construction or installation of marine motor engines, together with one year's service in the engine department of motor vessels, shall be eligible for examination for license as first assistant engineer of motor vessels of not more than 450 gross tons; or,

SIXTH. Three years' service as oiler in the engine department of motor vessels of over 750 gross tons for license as first assistant engineer of motor vessels of 1,200 gross tons and under.

B–3–16. *Second Assistant Engineer of Motor Vessels.*

T/O. An applicant for license as second assistant engineer of motor vessels shall be eligible for examination after he has furnished satisfactory documentary evidence to the local inspectors that he has had the following experience and is qualified in all other respects:

FIRST. One year's service as third assistant engineer of motor vessels; or,

SECOND. Four years' service as oiler in the engine department of motor vessels; or,

THIRD. A journeyman machinist who has served an apprenticeship for three years and engaged in the construction or repair of marine motor engines for at least two years of that time, together with one year's service in the engine department of motor vessels as oiler; or,

FOURTH. Any person holding a license as second assistant engineer of steam vessels, who has served at least three months as licensed third assistant engineer of motor vessels; or,

FIFTH. Any person holding a license as second assistant engineer of steam vessels, after having served as oiler in the engine department of motor vessels for not less than six months or has been employed for not less than three months in the construction or installation of engines for motor vessels, together with three months' service in the engine department of motor vessels; or,

SIXTH. A graduate in mechanical, marine, or electrical engineering from a duly recognized school of technology, together with 6 months' service as oiler on motor vessels.

B-3-17. *Third Assistant Engineer of Motor Vessels.*

T/O. An applicant for license as third assistant engineer of motor vessels shall be eligible for examination after he has furnished satisfactory documentary evidence to the local inspectors that he has had the following experience and is qualified in all other respects:

FIRST. Three years' service in the engine department of motor vessels; or,

SECOND. A graduate from the engineering class of a State nautical school ship, established under authority of an act of Congress approved March 4, 1911, the term of such engineering class to be based upon a period of two years, after he has served at least six months as oiler on motor vessels, or has been employed at least six months in the construction and installation of engines for motor vessels; or

THIRD. Three years' service as an apprentice to the machinist trade and engaged in the construction or repair of marine, stationary, or locomotive engines, together with one year's service in the engine department of motor vessels as oiler; or

FOURTH. Two years' service as a locomotive or stationary engineer, together with two years' service as oiler on motor vessels; or

FIFTH. Any person holding a license as third assistant engineer of steam vessels, after having served as oiler in the engine department of motor vessels for not less than three months or has been employed for not less than three months in the construction and installation of engines for motor vessels.

SECTION B-4—QUALIFICATIONS FOR OFFICERS—COASTWISE

B-4-1. *Master of Steam Vessels.*

T/C. An applicant for license as master of coastwise steam vessels shall be eligible for examination after he has furnished satisfactory documentary evidence to the local inspectors that he has had the following experience and is qualified in all other respects:

FIRST. One year's service as chief mate of ocean or coastwise steam vessels; or

SECOND. Two years' service as second mate of ocean or coastwise steam vessels while holding a license as chief mate of ocean or coastwise steam vessels; or,

THIRD. Two years' service as master of lake, bay, or sound steam vessels of 500 gross tons or over, together with six months' service as chief mate or twelve months' service as second mate of ocean or coastwise steam vessels, while holding license as master of such lake, bay, or sound steam vessels; or,

FOURTH. Five years' service on ocean or coastwise sail vessels of 200 gross tons or over, two years of which service shall have been as master of such vessels, for license as master of coastwise freight and towing vessels of not over 750 gross tons; or,

FIFTH. One year's service as a licensed master of ocean or coastwise sail vessels of 700 gross tons or over for a license as master of coastwise freight or towing vessels of not more than 3,000 gross tons; or,

SIXTH. Two years' service as master or first-class pilot of lake, bay, or sound towing steams of 150 gross tons or over, for license as master of coastwise towing steam vessels of 750 gross tons or under; or,

SEVENTH. Two years' service as master of steam vessels of 1,000 gross tons or over, except ferry vessels, on the Great Lakes and other lakes, bays, or sounds, for license as master of coastwise vessels on routes not exceeding 300 miles; or,

EIGHTH. Two years' service as a licensed master of steam vessels of 250 gross tons or over, engaged in the ocean or coastwise fisheries, for license as master of coastwise, freight, or towing vessels of not more than 750 gross tons.

NINTH. Three years' service as operator of nondescript power-propelled vessels not carrying passengers for license as master of such vessels not exceeding 100 gross tons; 3 years' service as operator of nondescript power-propelled vessels carrying passengers for license as master of such vessels not exceeding 100 gross tons; on coatwise routes not exceeding 50 miles, and 15 miles off shore: *Provided*, That local inspectors shall require a suitable examination for this license.

B-4-2. *Examination for Master of Steam Vessels.*

T/C. (a) An applicant for license as master of coastwise steam vessels on routes exceeding 300 miles shall pass a satisfactory examination as to his knowledge of the following subjects:

1. Latitude by Polaris.
2. Latitude by reduction to meridian (sun or star).
3. Longitude by chronometer (sun or star).
4. Ship's position by lines of position.
5. Ship's position by dead reckoning.
6. Azimuth by altitude of sun or star.
7. Chart navigation.
8. Time of tide by tables.
9. Speed by engine revolutions.
10. Distance off a fixed object.
11. Change in draft due to density of water.
12. Signaling by semaphore.
13. Cargo handling.
14. International Code of Signals.
15. International Rules of the Road.
16. Life-saving apparatus.
17. Magnetism, with regard to a ship's compass.
18. Coastwise winds and currents.
19. Instruments and accessories used in navigation.
20. Aids to navigation.
21. Seamanship.
22. Hull nomenclature.
23. Ship sanitation.
24. United States Navigation Laws.
25. Rules and Regulations of the Board of Supervising Inspectors.
26. Such further examination of nonmathematical character as the local inspectors may require.

(b) An applicant for license as master of coastwise steam vessels on routes of 300 miles or less shall be required to pass a satisfactory examination as to his knowledge of the following subjects:

1. Chart navigation.
2. Distance off a fixed object.
3. International Rules of the Road.
4. Storm signals.
5. Aids to navigation on route.
6. Cargo handling.
7. Signaling by semaphore.
8. Instruments and accessories used in navigation.
9. United States Navigation Laws.
10. Rules and Regulations of the Board of Supervising Inspectors.
11. Such further examination of a nonmathematical character as the local inspectors may require.

B–4–3. *Chief Mate of Steam Vessels.*

T/C. An applicant for license as chief mate of coastwise steam vessels shall be eligible for examination after he has furnished satisfactory documentary evidence to the local inspectors that he has had the following experience and is qualified in all other respects:

FIRST. One year's service as second mate of ocean or coastwise steam vessels of 1,000 gross tons or over; or,

SECOND. Two years' service as officer in charge of a watch on ocean or coastwise steam vessels of 1,000 gross tons or over while holding license as second mate of ocean and coastwise steam vessels; or,

THIRD. One year's service as master or first-class pilot of lake, bay, or sound steam vessels of 500 gross tons or over, except ferry vessels, together with twelve months' service as third mate of ocean or coastwise steam vessels of 1,000 gross tons or over, while holding license as such master or first-class pilot; or,

FOURTH. Two years' service as master or first-class pilot of lake, bay, or sound towing vessels for license as chief mate of coastwise towing vessels of 750 gross tons or under; or,

FIFTH. One year's service as a licensed master or two years' service as a licensed mate on ocean or coastwise steam vessels of 250 gross tons or over engaged in the ocean or coastwise fisheries, for license as chief mate of coastwise freight or towing steam vessels of 1,000 gross tons or under; or,

SIXTH. Five years' service in the deck department of any ocean or coastwise sail vessel of 100 gross tons or over, two years of such service shall have been as master of such vessels, for license as chief mate of freight or towing steam vessels of 1,000 gross tons or under; or,

SEVENTH. Two years' service as first-class pilot, or two years' combined service as master and first-class pilot of steam vessels of 1,000 gross tons or over, except ferry vessels, on the Great Lakes and other lakes, bays, and sounds, for license as chief mate of coastwise vessels on routes not exceeding 300 miles; or,

EIGHTH. Three years' service in the deck department of ocean or coastwise steam vessels for license as chief mate of coastwise steam vessels of not more than 500 gross tons.

B–4–4. *Examination for License as Chief Mate of Steam Vessels.*

T/C. (a) An applicant for license as chief mate of coastwise steam vessels on route exceeding 600 miles shall be required to pass a satisfactory examination as to his knowledge of the following subjects:

1. Latitude by meridian altitude (sun or star).
2. Longitude by chronometer (sun or star).
3. Deviation of the compass by azimuth.
4. Ship's position by dead reckoning.
5. Distance off a fixed object.
6. Chart navigation.
7. Mercator sailings.
8. Determination of area and volume.
9. Storm signals.
10. International Rules of the Road.
11. International Code of Signals.
12. Cargo handling.
13. Signaling by blinker.
14. Life-saving apparatus.
15. Instruments and accessories used in navigation.
16. Seamanship.
17. Nautical astronomy definitions.
18. Aids to navigation.
19. Rules and Regulations of the Board of Supervising Inspectors.
20. Such further examination of a nonmathematical character as the local inspectors may require.

(b) An applicant for license as chief mate of coastwise steam vessels on routes of 600 miles or less shall be required to pass a satisfactory examination as to his knowledge of the following subjects:

1. Chart navigation.
2. Distance off a fixed object by bearings and run.
3. International Rules of the Road.
4. Storm signals.
5. Aids to navigation on route.
6. Cargo handling.
7. Signaling by blinker.
8. Instruments and accessories used in navigation.
9. Rules and Regulations of the Board of Supervising Inspectors.
10. Such further examination of a nonmathematical character as the local inspectors may require.

B–4–5. *Second Mate of Steam Vessels.*

T/C. An applicant for license as second mate of coastwise steam vessels shall be eligible for examination after he has furnished satisfactory documentary evidence to the local inspectors that he has had the following experience and is qualified in all other respects:

FIRST. One year's service as third mate of ocean or coastwise steam vessels; or,

SECOND. Five years' service in the deck department of ocean or coastwise steam vessels, two years of which shall have been as boatswain or quartermaster; or,

THIRD. Three years' service in the deck department of any ocean or coastwise sail vessel of 100 gross tons or over, together with one year's service in the deck department of ocean or coastwise steam vessels, for license as second mate of coastwise steam vessels of not more than 750 gross tons; or,

FOURTH. A graduate who has served two years in the seamanship class of a State nautical school ship, established under authority of an act of Congress approved March 4, 1911, and completed two ocean or coastwise cruises before graduation, together with two years' service in the deck department of ocean or coastwise steam vessels: *Provided*, That where the graduate has completed the two cruises, but not the two years' service required, additional service equal to the difference in time shall be served on ocean or coastwise steam vessels; or,

FIFTH. One year's service as a licensed master or first-class pilot of lake, bay, or sound steam vessels of 150 gross tons or over, except ferry vessels, together with one year's service in the deck department of ocean or coastwise steam vessels; or,

SIXTH. One year's service as a licensed mate on ocean or coastwise steam vessels of 150 gross tons or over engaged in the fisheries, for license as second mate of towing vessels; or,

SEVENTH. Two years' service as assistant (junior officer of the watch) to the officer in charge of the watch on coastwise steamers, while holding a license as third officer of coastwise steamers; or,

EIGHTH. Two years' service as first- or second-class pilot of steam vessels of 1,000 gross tons or over, except ferry vessels; on the Great Lakes and other lakes, bays, and sounds, for license as second mate of coastwise vessels on routes not exceeding 300 miles.

B–4–6. *Examination for License as Second Mate of Steam Vessels.*

T/C. (a) An applicant for license as second mate of coastwise steam vessels on routes exceeding 600 miles shall be required to pass a satisfactory examination as to his knowledge of the following subjects:

1. Latitude by meridian altitude of sun.
2. Longitude by chronometer.
3. Deviation of the compass by tables.
4. Ship's position by dead reckoning.
5. Middle latitude sailing.
6. Distance off by bearings and run.
7. Chart navigation.
8. International Rules of the Road.
9. Cargo handling.
10. Storm signals.
11. Sea terms.
12. Seamanship.
13. Instruments and accessories used in navigation.

14. Rules and Regulations of the Board of Supervising Inspectors.
15. Such further examination of a nonmathematical character as the local inspectors may require.

(b) An applicant for license as second mate of coastwise steam vessels on routes of 600 miles or less shall be required to pass a satisfactory examination as to his knowledge of the following subjects:

1. Chart navigation.
2. Distance off a fixed object by bearings and run.
3. International Rules of the Road.
4. Storm signals.
5. Aids to navigation on route.
6. Cargo handling.
7. Signaling by International Code of Signals.
8. Instruments and accessories used in navigation.
9. Rules and Regulations of the Board of Supervising Inspectors.
10. Such further examination of a nonmathematical character as the local inspectors may require.

B–4–7. *Third Mate of Steam Vessels.*

T/C. An applicant for license as third mate of coastwise steam vessels shall be eligible for examination after he has furnished satisfactory documentary evidence to the local inspectors that he has had the following experience and is qualified in all other respects:

FIRST. Three years' service in the deck department of ocean or coastwise steam vessels; or,

SECOND. A graduate who has served two years in the seamanship class of a State nautical school ship, established under authority of an act of Congress approved March 4, 1911, and completed two ocean or coastwise cruises before graduation: *Provided,* That where the graduate has completed the two cruises, but not the two years' service required, additional service equal to the difference in time shall be served in the deck department of ocean or coastwise steam vessels; or,

THIRD. Two years' service in the deck department of ocean or coastwise sail vessels of 100 gross tons or over, together with twelve months' service in the deck department of ocean or coastwise steam vessels. Service on such sail vessels engaged in the ocean or coastwise fisheries shall be accepted as meeting the requirements of the paragraph; or,

FOURTH. One year's service as master or pilot of lake, bay, sound, or river steam vessels of 150 gross tons or over, except ferry vessels, together with six months' service in the deck department of ocean or coastwise steam vessels; or,

FIFTH. Twenty-four months' service as a licensed first-class pilot of steam vessels of 2,500 gross tons or over, except ferry vessels, on the Great Lakes and other lakes, bays, or sounds; or,

SIXTH. Three years' service in the deck department of ocean or coastwise steam or sail vessels of less than 100 gross tons, together with one year's service in the deck department of ocean or coastwise steam vessels; or,

SEVENTH. Two years' service in the deck department of lake, bay, or sound steam vessels, together with two years' service in the deck department of ocean or coastwise steam vessels; or,

EIGHTH. Two years' service in the deck department of steam vessels of 100 gross tons or over engaged in the ocean or coastwise fisheries, together with one year's service in the deck department of ocean or coastwise steam vessels.

B–4–8. *Examination for License as Third Mate of Steam Vessels.*

T/C. An applicant for license as third mate of coastwise steam vessels shall pass a satisfactory examination as to his knowledge of the following subjects:

1. Latitude by meridian altitude of sun.
2. Chart navigation.
3. Determination of distance off a fixed object.
4. International Rules of the Road.
5. Storm signals.
6. Signaling by blinker.
7. Instruments and accessories used in navigation.
8. Sea terms.
9. Rules and Regulations of the Board of Supervising Inspectors.
10. Such further examination of a nonmathematical character as the local inspectors may require.

B–4–9. *Engineers of Steam and Motor Vessels.*

T/C. All engineers of steam and motor coastwise vessels shall have the same qualifications as those required for ocean vessels (Sec. B–3–13 to B–3–17); (B–3–9 to B–3–12).

SECTION B–5—QUALIFICATIONS FOR OFFICERS—GREAT LAKES

B–5–1. *Master of Steam Vessels.*

T/L. An applicant for license as master of steam vessels shall be eligible for examination after he has furnished satisfactory documentary evidence to the local inspectors that he has had the following experience:

FIRST. At least one year's experience as first-class pilot while acting in the capacity of first mate on steam vessels.

SECOND. Or five years' combined experience in the deck department of sail vessels and vessels propelled by machinery, one year of which has been as pilot or chief mate.

THIRD. Or one year's experience as master of steam vessels of 150 gross tons or under while acting under the authority of a first-class pilot's license, or two years' experience while acting under the authority of a second-class pilot's license.

FOURTH. Or five years' experience on sail vessels, one year of which has been as master.

FIFTH. Or three years' experience as master of sail vessels on the Great Lakes, for license as master of steam vessels on the Great Lakes and other inland waters.

SIXTH. Or three years' experience as master of barge consorts on the Great Lakes, and has been licensed as first-class pilot for one year, for license as master of steam vessels on the Great Lakes.

Any applicant for license as master of steam vessels shall be subjected to such examination as shall satisfy the local inspectors that he is capable of navigating such steam vessels.

B–5–2. *Mate of Steam Vessels.*

T/L. Whenever any person presents himself for examination for license as mate of Great Lakes steamers, the local inspectors shall examine him as to his knowledge, experience, and skill in handling cargo, the operation and handling of fire apparatus, the launching and handling of lifeboats, his knowledge of life preservers and the method of adjusting them, his ability to manage the crew, and his general familiarity with his duties in maintaining discipline, and if found qualified they shall grant him a license as such, but no such license shall be granted to any person who has not had at least two years' experience in the deck department of a steam vessel, sail vessel, motor vessel, or barge consort, six months of such service to have been in a steam vessel.

B–5–3. *Experience Required for License as Pilot.*

T/L. (a) No original license for pilot of any class shall be issued to any person, except for special license for steamers of 10 gross tons and under, who has not served at least three years in the deck department of a steam vessel, motor vessel, sail vessel, or barge consort, one year of which experience must have been obtained within the three years next preceding the date of application for license, which fact the inspectors shall require, when practicable, to be verified by the certificate, in writing, of the licensed master or pilot under whom the applicant has served, such certificate to be filed with the application of the candidate: *Provided,* That one year's experience as quartermaster or wheelsman while holding a second-class pilot license shall entitle the holder of such license to examination for license as first-class pilot.

(b) The local inspectors shall, before granting a license as pilot, satisfy themselves that the applicant is qualified to steer.

B–5–4. *Engineers of Steam Vessels.*

T/L. (a) Chief engineer of condensing steamers on Great Lakes.

Chief engineer of noncondensing steamers on Great Lakes.

First Assistant engineer of condensing steamers on Great Lakes.

First Assistant engineer of noncondensing steamers on Great Lakes.

Second Assistant engineer of condensing steamers on Great Lakes.

Second Assistant engineer of noncondensing steamers on Great Lakes.

Third Assistant engineer of condensing steamers on Great Lakes.

Third Assistant engineer of noncondensing steamers on Great Lakes.

(b) No person shall receive license as engineer or assistant engineer of steam vessels who has not had the experience specified in the following sections, a portion of which experience shall have been obtained within the three years next preceding the application, which fact shall be verified by the certificate, in writing, of the licensed engineer and master under whom the applicant has served, where practicable, said certificate to be filed with the application of the candidate, and no person shall receive license as above who is not able to pass a satisfactory written examination before the local inspectors.

(c) Inspectors shall designate upon the certificate of any chief or assistant engineer the tonnage of the vessel on which he may serve.

(d) Engineers of all classifications may be allowed to pursue their profession upon all waters of the United States in the class for which they are licensed.

(e) Engineers of Great Lakes steamers who have actually performed the duties of engineer for a period of three years shall be entitled to examination for engineer of ocean steamers, applicant to be examined in the use of salt water, method employed in regulating the density of the water in the boilers, the application of the hydrometer in determining the density of the sea water, and the principle of constructing the instrument; and may be examined by inspectors on the Great Lakes and seaboard.

(f) Wherever the word "year" appears in the following sections of this rule, it shall be understood as contemplating 12 months.

B–5–5. *Chief Engineer of Steam Vessels.*

T/L. An applicant for license as chief engineer of steamers on Great Lakes shall be eligible for examination after he has furnished satisfactory documentary evidence to the local inspectors that he has had the following experience:

FIRST. One year's experience as first assistant engineer of Great Lakes steamers, or,

SECOND. Two years' experience as second assistant engineer of Great Lakes steamers, while holding a license as first assistant engineer of Great Lakes steamers, or

THIRD. Any equivalent experience made up of proportional parts of the experience prescribed in the first and second numbered paragraphs of this section. For example, six months' experience as first assistant engineer, and twelve months' experience as second assistant engineer while holding a license as first assistant engineer, or,

FOURTH. Two years' experience as chief engineer of river steamers, or,

FIFTH. Any person holding a license as first assistant engineer of river steamers who has had one year's experience as first assistant engineer of steamers of 1,500 gross tons or over may be examined and licensed as chief engineer of Great Lakes steamers of not over 750 gross tons, or,

SIXTH. A person who has had the experience prescribed for license as first assistant engineer of Great Lakes steamers may be licensed as chief engineer of Great Lakes steamers of not over 750 gross tons, if the local inspectors, upon examination, find him qualified.

B–5–6. *First Assistant Engineer of Steam Vessels.*

T/L. An applicant for license as first assistant engineer of steamers on Great Lakes shall be eligible for examination after he has furnished satisfactory documentary evidence to the local inspectors that he has had the following experience:

FIRST. One year's experience as second assistant engineer of Great Lakes steamers, or,

SECOND. Two years' experience as third assistant engineer of Great Lakes steamers while holding a license as second assistant engineer of Great Lakes steamers; or

THIRD. Any equivalent experience made up of proportional parts of experience prescribed in the first and second numbered paragraphs of this section. For instance, six months' experience as second assistant engineer, together with 12 months' experience as third assistant engineer while holding a license as second assistant engineer; or

FOURTH. One year's experience as chief engineer of river steamers; or

FIFTH. Two years' experience as first assistant engineer of river steamers; or

SIXTH. Three years' service as oiler, water tender, or fireman on Great Lakes steamers for license as first assistant engineer on steam vessels not over 1,500 gross tons; or

SEVENTH. A journeyman machinist who has been engaged in the erection, construction, or repair of marine steam engines for two years, together with one year's service in the engine department of Great Lakes steamers; or

EIGHTH. A person who has had the experience prescribed for license as second assistant engineer may be licensed as first assistant engineer of Great Lakes steamers of not over 750 gross tons, if the local inspectors, upon examination, find him qualified.

B–5–7. *Second Assistant Engineer of Steam Vessels.*

T/L. An applicant for license as second assistant engineer of steamers on Great Lakes shall be eligible for examination after he has furnished satisfactory documentary evidence to the local inspectors that he has had the following experience:

FIRST. One year's experience as third assistant engineer of Great Lakes steamers; or

SECOND. One year's experience as first assistant engineer of river steamers; or,

THIRD. Three years' service as oiler, water tender, or fireman on Great Lakes steamers; or,

FOURTH. Three years' service as apprentice to the machinist trade and engaged in the construction or repair of marine, stationary, or locomotive engines, together with one year's service in the engine department of Great Lakes steamers; or,

FIFTH. A graduate from an engineering class of a State nautical school ship, established under authority of an act of Congress approved March 4, 1911, the term of such class to be based upon a period of two years; or,

SIXTH. Two years' service as stationary engineer, together with one year's service in the engine department of Great Lakes steamers; or,

SEVENTH. Any person holding a license as third assistant engineer of Great Lakes steamers, and having had one year's experience as junior engineer, or one year's combined experience as junior engineer and third assistant engineer while holding a license as third assistant engineer; or,

EIGHTH. Any person holding a license as third assistant engineer of Great Lakes steamers and having had one year's service as oiler or water tender since receiving license; or,

NINTH. A graduate in mechanical, electrical, or marine engineering from a duly recognized school of technology, together with one year's service in the engine department of Great Lakes steamers.

B–5–8. *Third Assistant Engineer of Steam Vessels.*

T/L. An applicant for license as third assistant engineer of steamers on the Great Lakes shall be eligible for examination after he has furnished satisfactory documentary evidence to the local inspectors that he has had the following experience:

FIRST. Three years' service in the engine department of Great Lakes steamers; or,

SECOND. One year's experience as second assistant engineer of river steamers; or,

THIRD. One year's service as stationary engineer, together with one year's service in the engine department of Great Lakes steamers; or,

FOURTH. A graduate from an engineering class of a State nautical school ship, established under authority of an act of Congress approved March 4, 1911, the term of such engineering class to be based upon a period of two years; or,

FIFTH. Eighteen months' experience as junior engineer.

B-5-9. *Engineers of Motor Vessels.*

T/L. All engineers of motor vessels on the Great Lakes shall have the same qualifications as those required for ocean vessels. (Sec. B-3-13 to B-3-17.)

SECTION B-6—QUALIFICATIONS FOR OFFICERS—BAYS, SOUNDS, AND LAKES OTHER THAN THE GREAT LAKES

B-6-1. *Master of Steam Vessels.*

T/B. Any applicant for license as master of steam vessels shall be eligible for examination after he has furnished satisfactory documentary evidence to the local inspectors that he has had the following experience:

FIRST. At least one year's experience as first-class pilot or chief mate of steam vessels.

SECOND. Or five years' combined experience in the deck department of sail vessels and vessels propelled by machinery, one year of which has been as pilot or chief mate.

THIRD. Or one year's experience as master of steam vessels of 150 gross tons or under while acting under the authority of a first-class pilot's license, or two years' experience while acting under the authority of a second-class pilot's license.

FOURTH. Or five years' experience on sail vessels, one year of which has been as master.

FIFTH. Or three years' experience as master of sail vessels for license as master of steam vessels.

SIXTH. Or two years' experience in the deck department of a steam vessel, one year of which shall have been either as wheelsman or in assisting in the navigation of the vessel, while holding a first-class pilot's license, for license as master of steam vessels of 500 gross tons and under, navigating all lakes, bays, and sounds other than the Great Lakes.

Any applicant for license as master of steam vessels shall be subjected to such examination as shall satisfy the local inspectors that he is capable of navigating such steam vessels.

B-6-2. *Mate of Steam Vessels.*

T/B. Whenever any person presents himself for examination for license as mate of inland steamers the local inspectors shall examine him as to his knowledge, experience, and skill in handling cargo, the operation and handling of fire apparatus, the launching and handling of lifeboats, his knowledge of life preservers and the method of adjusting them, his ability to manage the crew, and his general familiarity with his duties in maintaining discipline, and if found qualified they shall grant him a license as such, but no such license shall be granted to any person who has not had at least two years' experience in the deck department of a steam vessel, sail vessel, motor vessel, or barge consort, six months of such service to have been in a steam vessel.

B-6-3. *Experience Required for License as Pilot.*

T/B. (a) No original license for pilot of any class shall be issued to any person, except for special license for steamers of 10 gross tons and under, who has not served at least three years in the deck department of a steam vessel, motor vessel, or sail vessel, one year of which experience must have been obtained within the three years next preceding the date of application for license, which fact the inspectors shall require, when practicable, to be verified by the certificate, in writing, of the licensed master or pilot under whom the applicant has served, such certificate to be filed with the application of the candidate: *Provided,* That one year's experience as quartermaster or wheelsman while holding a second-class pilot license shall entitle the holder of such license to examination for license as first-class pilot.

(b) Pilots, after written examination, may be licensed for limited tonnage and routes on steamers navigating canals and small inland lakes like Seneca and Cayuga lakes in the State of New York, after 24 months' experience in the deck department of vessels propelled by machinery, 12 months of which experience must have been obtained within the two years next preceding the date of application for license.

(c) The local inspectors shall, before granting a license as pilot, satisfy themselves that the applicant is qualified to steer.

B-6-4. *Engineers of Steam Vessels.*

T/B. (a) Chief engineer of condensing steamers on bays, sounds, and lakes other than the Great Lakes.

Chief engineer of noncondensing steamers on bays, sounds, and lakes other than the Great Lakes.

First assistant engineer of condensing steamers on bays, sounds, and lakes other than the Great Lakes.

First assistant engineer of noncondensing steamers on bays, sounds, and lakes other than the Great Lakes.

Second assistant engineer of condensing steamers on bays, sounds, and lakes other than the Great Lakes.

Second assistant engineer of noncondensing steamers on bays, sounds, and lakes other than the Great Lakes.

Third assistant engineer of condensing steamers on bays, sounds, and lakes other than the Great Lakes.

Third assistant engineer of noncondensing steamers on bays, sounds, and lakes other than the Great Lakes.

(b) No person shall receive license as engineer or assistant engineer of steam vessels who has not had the experience specified in the following sections, a portion of which experience shall have been obtained within the three years next preceding the application, which fact shall be verified by the certificate, in writing, of the licensed engineer and master under whom the applicant has served, where practicable; said certificate to be filed with the application of the candidate; and no person shall receive license as above who is not able to pass a satisfactory written examination before the local inspectors.

(c) Inspectors shall designate upon the certificate of any chief or assistant engineer the tonnage of the vessel on which he may serve.

(d) Engineers of all classifications may be allowed to pursue their profession upon all waters of the United States in the class for which they are licensed.

(e) Engineers of Lake, bay, and sound steamers who have actually performed the duties of engineer for a period of three years shall be entitled to examination for engineer of ocean steamers, applicant to be examined in the use of salt water, method employed in regulating the density of the water in the boilers, the application of the hydrometer in determining the density of the sea water, and the principle of constructing the instrument; and may be examined by inspectors on the Great Lakes and seaboard.

(f) Wherever the word "year" appears in the following section of this rule it shall be understood as contemplating 12 months.

B-6-5. *Chief Engineer of Steam Vessels.*

T/B. An applicant for license as chief engineer of steamers on bays, sounds, and lakes other than the Great Lakes shall be eligible for examination after he has furnished satisfactory documentary evidence to the local inspectors that he has had the following experience:

FIRST. One year's experience as first assistant engineer of lake, bay, and sound steamers; or,

SECOND. Two years' experience as second assistant engineer of Lake, bay, and sound steamers while holding a license as first assistant engineer of lake, bay, and sound steamers; or,

THIRD. Any equivalent experience made up of proportional parts of the experience prescribed in the first and second numbered paragraphs of this section. For example, 6 months' experience as first assistant engineer and 12

months' experience as second assistant engineer, while holding a license as first assistant engineer; or,

FOURTH. Two years' experience as chief engineer of river steamers; or,

FIFTH. Any person holding a license as first assistant engineer of river steamers who has had one year's experience as first assistant engineer of steamers of 1,500 gross tons or over may be examined and licensed as chief engineer of lake, bay, and sound steamers of not over 750 gross tons; or,

SIXTH. A person who has had the experience prescribed for license as first assistant engineer of lake, bay, and sound steamers may be licensed as chief engineer of lake, bay, and sound steamers of not over 750 gross tons, if the local inspectors, upon examination, find him qualified.

B–6–6. *First Assistant Engineer of Steam Vessels.*

T/B. An applicant for license as first assistant engineer of steamers on bays, sounds, and lakes other than the Great Lakes shall be eligible for examination after he has furnished satisfactory documentary evidence to the local inspectors that he has had the following experience:

FIRST. One year's experience as second assistant engineer of lake, bay, and sound steamers; or,

SECOND. Two years' experience as third assistant engineer of lake, bay, and sound steamers while holding a license as second assistant engineer of lake, bay, and sound steamers; or,

THIRD. Any equivalent experience made up of proportional parts of experience prescribed in the first and second numbered paragraphs of this section; for instance, six months' experience as second assistant engineer, together with twelve months' experience as third assistant engineer while holding license as second assistant engineer; or,

FOURTH. One year's experience as chief engineer of river steamers; or,

FIFTH. Two years' experience as first assistant engineer of river steamers; or,

SIXTH. Three years' service as oiler, water tender, or fireman on lake, bay, and sound steamers for license as first assistant engineer on steam vessels not over 1,500 gross tons; or,

SEVENTH. A journeyman machinist who has been engaged in the erection, construction, or repair of marine steam engines for two years, together with one year's service in second assistant engineer of lake, bay, and sound steamers; or,

EIGHTH. A graduate in mechanical or marine engineering from a duly recognized school of technology, together with one year's service in the engine department of lake, bay, and sound steamers; or,

NINTH. A person who has had the experience prescribed for license as second assistant engineer may be licensed as first assistant engineer of lake, bay, and sound steamers of not over 750 gross tons, if the local inspectors, upon examination, find him qualified.

B–6–7. *Second Assistant Engineer of Steam Vessels.*

T/B. An applicant for license as second assistant engineer of steamers on bays, sounds, and lakes other than the Great Lakes shall be eligible for examination after he has furnished satisfactory documentary evidence to the local inspectors that he has had the following experience:

FIRST. One year's experience as third assistant engineer of lake, bay, and sound steamers; or,

SECOND. One year's experience as first assistant engineer of river steamers; or,

THIRD. Three years' service as oiler, water tender, or fireman on lake, bay, and sound steamers; or,

FOURTH. Three years' service as apprentice to the machinist trade and engaged in the construction or repair of marine, stationary, or locomotive engines, together with one year's service in the engine department of lake, bay, and sound steamers; or,

FIFTH. A graduate from an engineering class of a State nautical school ship, established under authority of an act of Congress approved March 4, 1911, the term of such class to be based upon a period of two years; or,

SIXTH. Two years' service as stationary engineer, together with one year's service in the engine department of lake, bay, and sound steamers; or,

SEVENTH. Any person holding a license as third assistant engineer of lake, bay, and sound steamers, and having had one year's experience as junior engineer, or one year's combined experience as junior engineer and third assistant engineer while holding a license as third assistant engineer; or,

EIGHTH. Any person holding a license as third assistant engineer of lake, bay, and sound steamers, and having had one year's service as oiler or water tender since receiving license.

B–6–8. *Third Assistant Engineer of Steam Vessels.*

T/B. An applicant for license as third assistant engineer of steamers on bays, sounds, and lakes other than the Great Lakes shall be eligible for examination after he has furnished satisfactory documentary evidence to the local inspectors that he has had the following experience:

FIRST. Three years service in the engine department of lake, bay, and sound steamers; or,

SECOND. One year's experience as second assistant engineer of river steamers; or,

THIRD. One year's service as stationary engineer, together with one year's service in the engine department of lake, bay, and sound steamers; or,

FOURTH. A graduate from an engineering class of a nautical school ship, the term of such engineering class to be based upon a period of two years; or,

FIFTH. Eighteen months' experience as junior engineer.

B–6–9. *Engineers of Motor Vessels.*

T/B. All engineers of motor vessels on bays, sounds, and lakes, other than Great Lakes, shall have the same qualifications as those required for ocean vessels. (Secs. B–3–13 to B–3–17.)

SECTION B–7—QUALIFICATIONS FOR OFFICERS—RIVERS

B–7–1. *Master of River Steamers.*

T/R. (a) Inspectors shall examine all applicants for original license as master of steamers navigating rivers exclusively, which examination shall be reduced to writing and made a part of the permanent records of the office of the inspectors making such examination; and no such license shall be issued to any person to act as master of such steamers who has not, by actual service of at least three years in the deck department of steam vessels, one year of which shall have been on river steamers, acquired practical knowledge, skill, and experience essential in case of emergency and disaster, and in the navigation of such steamers with safety to life and property, and at least one year of service to have been within the three years next preceding the application, and no license as master shall be issued to any applicant who can not read and write, and who has not served at least one year as licensed mate or pilot of steam vessels.

(b) The line of examination to be pursued by inspectors in examining applicants for original license as master of river steamers shall be as follows:

1. As to his general knowledge of the duties of master of such steamers.
2. As to his ability to handle the wheel in case of emergency or disaster.
3. As to the knowledge of his duties and proper method of procedure in case of fire on his vessel.
4. As to his knowledge of proper management of a vessel and crew in case of collision and sinking.
5. As to executive ability generally to manage officers and crew.
6. As to his general knowledge and ability to navigate steamers with safety to life and property.
7. As to his knowledge of pilot rules governing the navigation of such steamers.

8. As to his knowledge of signals between the pilot house and engine room.
9. As to his knowledge of signal lights and their proper position on all steam and other vessels.
10. As to duties of master in case of fog or stormy weather, and on such other subjects in connection with the navigation of such vessels as the inspectors conducting such examination may deem proper and necessary.

B–7–2. *Mate of River Steamers.*

T/R. Whenever any person presents himself for examination for license as mate of river steamers the local inspectors shall examine him as to his knowledge, experience, and skill in handling cargo, the operation and handling of fire apparatus, the launching and handling of lifeboats, his knowledge of life preservers and the method of adjusting them, his ability to manage the crew, and his general familiarity with his duties in maintaining discipline, and if found qualified they shall grant him a license as such, but no such license shall be granted to any person who has not had at least two years' experience in the dock department of a steam vessel, sail vessel, motor vessel, or barge consort, six months of such service to have been in a steam vessel.

B–7–3. *Experience Required for License as Pilot.*

T/R. (a) No original license for pilot of any class shall be issued to any person, except for special license for steamers of 10 gross tons and under, who has not served at least three years in the deck department of a steam vessel, motor vessel, sail vessel, one year of which experience must have been obtained within the three years next preceding the date of application for license, which fact the inspectors shall require, when practicable, to be verified by the certificate, in writing, of the licensed master or pilot under whom the applicant has served, such certificate to be filed with the application of the candidate: *Provided,* That one year's experience as quartermaster or wheelsman while holding a second-class pilot license shall entitle the holder of such license to examination for license as first-class pilot.

(b) Special pilots may be licensed for steamers of 10 gross tons and under, locally employed.

(c) The local inspectors shall, before granting a license as pilot, satisfy themselves that the applicant is qualified to steer.

B–7–4. *Engineers of Steam Vessels.*

T/R. (a) Chief engineer of condensing river steamers.
Chief engineer of noncondensing river steamers.
First assistant engineer of condensing river steamers.
First assistant engineer of noncondensing river steamers.
Second assistant engineer of condensing river steamers.
Second assistant engineer of noncondensing river steamers.
Third assistant engineer of condensing river steamers.
Third assistant engineer of noncondensing river steamers.

(b) No person shall receive license as engineer or assistant engineer of steam vessels who has not had the experience specified in the following sections, a portion of which experience shall have been obtained within the three years next preceding the application, which fact shall be verified by the certificate, in writing, of the licensed engineer and master under whom the applicant has served, where practicable, said certificate to be filed with the application of the candidate; and no person shall receive license as above who is not able to pass a satisfactory written examination before the local inspectors.

(c) Inspectors shall designate upon the certificate of any chief or assistant engineer the tonnage of the vessel on which he may serve.

(d) Engineers of all classifications may be allowed to pursue their profession upon all waters of the United States in the class for which they are licensed.

(e) Wherever the word "year" appears in the following sections of this rule, it shall be understood as contemplating 12 months.

B–7–5. *Chief Engineer of Steam Vessels.*

T/R. An applicant for license as chief engineer of river steamers shall be eligible for examination after he has furnished satisfactory documentary evidence to the local inspectors that he has had the following experience:

FIRST. One year's experience as first assistant engineer of steam vessels; or

SECOND. Two years' experience as second assistant engineer of steam vessels while holding a license as first assistant engineer; or

THIRD. Any equivalent experience made up of proportional parts of the experience prescribed in the first and second numbered paragraphs in this section. For example, six months' experience as first assistant engineer, and twelve months' experience as second assistant engineer while holding a license as first assistant engineer; or,

FOURTH. Applicants who have had the experience prescribed for license as first assistant engineer may be licensed as chief engineer of river steam vessels of not over 750 gross tons, if the local inspectors, upon examination, find him qualified.

B–7–6. *First Assistant Engineer of Steam Vessels.*

T/R. An applicant for license as first assistant engineer of river steamers shall be eligible for examination after he has furnished satisfactory documentary evidence to the local inspectors that he has had the following experience:

FIRST. One year's experience as second assistant engineer, or,

SECOND. Two years' experience as third assistant engineer while holding a license as second assistant engineer; or,

THIRD. Any equivalent experience made up of proportional parts of the experience prescribed in the first and second numbered paragraphs of this section. For example, six months' experience as second assistant engineer and twelve months' experience as third assistant engineer while holding a license as second assistant engineer; or,

FOURTH. Three years' experience as oiler, water tender, or fireman; or,

FIFTH. A graduate in mechanical or marine engineering from a duly recognized school of technology together with one year's service in the engine department of steam vessels; or,

SIXTH. A journeyman machinist who has been engaged in the erection, construction, or repair of marine steam engines for two years, together with one year's service in the engine department of steam vessels; or,

SEVENTH. Applicants who have had the experience prescribed for license as second assistant engineer may be licensed as first assistant engineer of river steamers of not over 750 gross tons, if the local inspectors, upon examination, find him qualified.

B–7–7. *Second Assistant Engineer of Steam Vessels.*

T/R. An applicant for license as second assistant engineer of river steamers shall be eligible for examination after he has furnished satisfactory documentary evidence to the local inspectors that he has had the following experience:

FIRST. One year's experience as third assistant engineer of steam vessels; or,

SECOND. Two years' service as stationary engineer, together with one year's service in the engine room of steam vessels; or,

THIRD. Three years' service as an apprentice to the machinist trade and engaged in the construction and repair of marine, stationary, or locomotive engines, together with one year's service in the engine department of steam vessels; or,

FOURTH. A graduate from an engineering class of a state nautical school ship, established under authority of an act of Congress approved March 4, 1911, the term of such engineering class to be based upon a period of two years; or,

FIFTH. Any person holding license as third assistant engineer and having had one year's service as junior engineer, or one year's combined service as third assistant and junior engineer, or one year's service as oiler or water tender, or one

year's combined service as oiler and water tender, since receiving license.

B–7–8. *Third Assistant Engineer of Steam Vessels.*

T/R. An applicant for license as third assistant engineer of river steamers shall be eligible for examination after he has furnished satisfactory documentary evidence to the local inspectors that he has had the following experience:

FIRST. Three years' service in the engine department of steam vessels; or,

SECOND. One year's service as stationary engineer, together with one year's service in the engine department of steam vessels; or,

THIRD. Two years' service as an apprentice to the machinist trade and engaged in the construction and repair of marine, stationary, or locomotive engines, together with one year's service in the engine department of steam vessels.

B–7–9. *Engineers of Motor Vessels.*

T/R. All licensed engineers of motor vessels on rivers where required, shall have the same qualifications as those required for ocean vessels (Sec. B–3–13 to B–3–17).

APPENDIX C—SPECIFICATIONS FOR LIFE SAVING APPLIANCES

Outline of Sections

SECTION C–1—LIFEBOATS, LIFERAFTS, BUOYANT APPARATUS AND DAVITS

C–1–1. *Drawings, Specifications, Name Plates.*

TB/ALL. (a) All lifeboats, liferafts, and buoyant apparatus shall be substantially constructed in accordance with drawings, or blue prints, and specifications approved by the Board of Supervising Inspectors.

(b) Builders of lifeboats, liferafts, and buoyant apparatus shall furnish the supervising inspector of the district in which the equipment is built drawings, or blueprints, and specifications showing and explaining the construction of same, and showing the tensile strength and ductility of the metal used. Lifeboats and liferafts may be constructed of steel having a minimum tensile strength not less than 50,000 pounds per square inch and an elongation of at least 20 per cent in a gage length of 8 inches; or of wrought iron having a minimum tensile strength of 45,000 pounds per square inch and a minimum elongation of 12 per cent in 8 inches; or of other approved metals. Where steel is used and the minimum thickness of the metal is less than no. 16 B. W. G., the elongation shall not be less than 15 per cent in a gage length of 8 inches.

(c) Builders of lifeboats and liferafts shall affix a plate or other device to each lifeboat, having thereon the builder's name, number of boat, date of construction of boat, cubical contents of boat, and number of persons said boat will carry, as determined by the rules of the Board of Supervising Inspectors.

C–1–2. *Inspection.*

TB/ALL. Supervising inspectors of districts where lifeboats are built shall detail an assistant or local inspector to any place where lifeboats, liferafts, or buoyant apparatus, are being built, whose duty it shall be to carefully inspect and examine the construction of such lifeboats, and he shall satisfy himself that such lifeboats, liferafts, or buoyant apparatus are constructed in accordance with the drawings, or blue prints, and specifications furnished by the builders. When the assistant or local inspector approves the construction of the boat or raft or equipment, he shall stamp his initials, together with the letters "U. S. I.", on a blank space on the plate required to be affixed to the boat, by the builder. The initials of the assistant or local inspector shall be satisfactory evidence to all parties interested that the boat has been constructed in accordance with the drawings, or blue prints, and specifications on file.

C–1–3. *Approval.*

TB/ALL. Any type of lifeboat or liferaft approved by the Board of Supervising Inspectors shall be considered as equivalent to the standard boat or raft.

C–1–4. *Lifeboat Davits.*

TB/ALL. (a) On and after May 1, 1920, the complete installation of all mechanical boat davits shall be tested and demonstrated for strength and efficiency at the place of manufacture in the presence of an inspector of the Bureau.

(b) The frame, gear, worms, arms, and all machinery in connection with the operation of the device shall be set up in the shop in the same manner as when installed for use on board the ship and shall be tested in the following manner: A weight equal to the weight of the boat with its equipment and complement of persons that the davit is intended to serve, the weight of the persons being considered as 140 pounds each, shall be suspended from the eye or end of each davit arm, and while the weight is in suspension the davit arm shall be operated from the inboard position to the full outboard position with the same operating crank or device that is used in actual practice on board the ship. Under this test the davit arm shall show no permanent set or deflection, and the frame, gear, and operating mechanism shall show no distress or distortion. While this test is being conducted, the frame, gear, and operating mechanism, if of cast material, shall be subjected to a test by being well hammered, to satisfy the inspector that the castings are sound and without flaw.

(c) When the assembled installation meets the foregoing requirements and the inspector is satisfied that the device is sufficient in strength and operation, he shall stamp the davit arm and the frame to which it is attached, which shall bear identical numbers of the manufacturer, with the letters "U. S. I.", the initials of his name, and a serial number.

(d) When steel castings are employed for frames or davit arms the castings shall be thoroughly annealed, and the tensile strength of the castings shall be not less than 58,000 pounds nor more than 78,000 pounds per square inch, with an elongation of not less than 20 per cent in a length of 2½ inches measured on the test piece used in determining the tensile stress. The test piece shall have a section 2½ inches in the center turned down to one-half inch diameter. An inspector of this service shall witness this test. Sample pieces shall be a part of the annealed casting and shall represent the casting after it has been thoroughly annealed, and if the casting has afterwards been heated for any purpose it shall be again annealed. The manufacturer shall furnish the inspector, when required, an affidavit setting forth the fact that the required tests respecting annealing have been fully complied with. The davit arm, if of cast material, shall be raised to an agle of 45°, the lower end resting upon the ground, and dropped on a hard unyielding base; and then slung up and subjected to a test by being well hammered with a sledge hammer not less than 7 pounds in weight, to satisfy the inspector that the casting is sound and without flaw. An inspector shall be present at the foundry where such castings are made, and when the foregoing specifications and tests referred to in this paragraph have been complied with to his satisfaction, he shall stamp the davit arm and the davit frame with the letters "U. S. I.", the initials of his name, and the letters "F. T." indicating that the foundry tests have been complied with.

(e) No davit arm or frame comprising mechanical davits shall be placed on board any vessel until all these requirements have been fully complied with. Whenever mechanical davits or parts of davits, such as davit arms or frames, are installed on vessels to take the place of davits, davit arms, or frames which have become damaged or broken, such davits or parts shall have in addition to the manufacturer's name plate a substantial bronze plate showing that the respective parts are for replacement, this additional plate to indicate the name of the manufacturer, serial number of the davit, and the date. Such replacements and repairs to davits shall be tested in accordance with the provisions of this section, and when the inspector is satisfied that the device is sufficient in strength and operation, he shall stamp the letters "U. S. I." and the initials of his name on the plate.

(f) After October 31, 1926, all cast-steel mechanical davits carried in stock, which have not been tested as above described, shall be subjected to the drop, hammer, suspension, and turning-out tests, and stamped by an inspector, all as above described, before such davits are accepted as lawful equipment.

SECTION C–2—CONSTRUCTION OF METALLIC LIFEBOATS

C–2–1. *Specifications.*

TB/ALL. The following specifications and schedule of lifeboat material shall be complied with unless other arrangements in matters of constructional details, design, and strength equivalent in safety and efficiency are approved by the supervising inspector of the district in which the lifeboat is built.

C–2–2. *Keel, Stem, and Sternpost.*

TB/ALL. The dimensions of bar keels, stems, and sternposts shall be as given in table. The keel, stem, and sternpost shall be in one length except in the case of a boat of sternframe construction where the stem and keel shall be in one length, scarphed and riveted to the stern frame. The scarph connecting the keel to the stern frame shall have a length of nine times the thickness of the keel, or butt welded with suitable reinforcing straps on both sides.

C–2–3. *Shell Plating.*

TB/ALL. (a) The gage of shell plating shall be as given in table and shall have a tensile strength of not less than 50,000 pounds per square inch and an elongation of at least 20 per cent in a gage length of 8 inches, or of wrought iron having a minimum tensile strength of 45,000 pounds per square inch and a minimum elongation of 12 per cent in 8 inches; or of other approved metals. When the minimum thickness of the steel is less than no. 16 B. W. G. the elongation shall be not less than 15 per cent in a gage length of 8 inches.

(b) The bottom shell plating shall be increased to gages as shown in table for not less than 25 per cent of the breadth each side of the keel.

(c) Doubling plates of suitable size shall be fitted on all steel boats at points where the shell is liable to corrosion from contact with the boat's chocks, or alternatively steel liners may be fitted to the latter.

(d) All seam and butt laps shall lap at least 1¼ inches.

(e) The laps of joints on keel, stem, and sternpost shall be not less than that specified in table.

C–2–4. *Riveting.*

TB/ALL. The several plates composing the shell may be joined together either by riveting or welding. Where riveting is employed, it shall be by double riveting. The center of the row of rivets nearest the edge of a sheet shall be about three-eighths of an inch from the edge. The rivets shall be staggered with not less than 18 rivets to the foot and such rivets shall have counter-sunk heads. The diameter of the rivets shall be not less than no. 10 B. W. G. The riveting of the shell plating to the keels, stems, and sternposts shall be with button-head rivets of the following diameters, said riveting to be staggered with not less than 12 rivets to the foot:

	Inch
Boats 24 feet or under	3/10
Over 24 feet, under 27	¼
Over 27 feet, under 32	5/16

C–2–5. *Welding.*

TB/ALL. (a) Where welding is employed in lifeboat or life raft construction it shall be in accordance with the following specifications for fusion welding of sheet metal:

(b) *Scope.*—These specifications apply only to the application of fusion welding to lifeboats, life rafts, air tanks, and similar vessels subject to pressures not to exceed 15 pounds per square inch.

(c) *Materials.*—1. Base metal: The materials shall be steel or wrought iron plates (galvanized) having a thickness of not less than no. 18 B. W. G. nor more than three-sixteenths inch. 2. Filler metal: High-test electrode shall be used to insure a weld which will have an efficiency equal to the strength of the base metal without reenforcement.

(d) *Process.*—Any process of welding which has been approved by the Board of Supervising Inspectors may be used in the fabrication of lifeboats and life rafts.

(e) *Design of Joints.*—The following joints are acceptable: Butt joints, flanged joints, or lapped joints, fillet-welded as both edges.

C–2–6. *Application of Welding.*

TB/ALL. The plates shall be properly formed and secured by jigs, clamps, or other suitable devices to prevent sagging or warping. The welder shall use due caution to avoid heating the plate to such an extent as to cause it to become distorted or warped. Care shall be taken to insure that the weld has complete fusion, proper penetration to the full thickness, and is reasonably free from porosity. Provision should be made to provide for reasonable expansion and contraction while the welding is being applied. The weld shall be machined to a reasonable degree of smoothness and galvanized by spraying with zinc to protect against the weather.

C–2–7. *Supervision.*

TB/ALL. Manufacturers who desire to construct lifeboats or life rafts by means of any process of fusion welding shall submit plans and specifications to the supervising inspector, showing in detail the design and methods of construction which they propose to employ. The plans or specifications shall contain the following data:

Tensile strength of the base metal.
Elongation of base metal in a gage length of 4 inches.
Trade name of electrode used.
Elongation of filler metal in a gage length of 2 inches.

C–2–8. *Inspection and Tests.*

TB/ALL. (a) Inspectors shall have access to lifeboats, life rafts, tanks, etc., under construction in order to ascertain whether the material and technique is such as to insure dependable workmanship.

(b) Two tension and two bend test specimens shall be taken from each life-boat, or life-raft cylinder, constructed by means of fusion welding.

(c) The tension test specimens shall be made with a reduced section having a gage length of 4 inches. The edges of the bend test specimens may be parallel. Both tension and bend test specimens shall be made with the weld in the center. The reinforcement shall be ground off, and the tension test specimen shall show under test a tensile strength at least equal to that of the base metal. The bend test shall be made in a vise in such manner that the fibers of the weld will be stretched and must withstand being bent to a radius of not less than twice its thickness without showing cracks or flaws.

(d) The inspector making the tests shall satisfy himself that the workmanship is such that the boat or raft so constructed is at least equal in strength and dependability to an approved metallic lifeboat or raft of riveted construction.

C–2–9. *Floors.*

TB/ALL. (a) Floors shall be fitted in lifeboats 26 feet in length and over, of such dimensions as indicated in table.

(b) The floors shall be flanged 1½ inches top and bottom and fastened to the skin by a single row of rivets $\frac{3}{8}$ inch in diameter and pitched three inches on centers.

(c) Limber holes shall be cut in the floors and so located as to provide efficient draining.

C–2–10. *Gunwales.*

TB/ALL. (a) The dimensions of angular steel gunwales shall be as given in table.

(b) The gunwales on each side of the lifeboat shall be in not more than two pieces. If the gunwales are fitted in two lengths, the butts shall be kept beyond the midship half length of the boat and at opposite ends on each side. The joint may be riveted or welded, and the backing-up piece shall be angular in section of the thickness of the gunwale, and the length shall be not less than eight times the depth of the gunwale. It shall be secured to the sheer strake by riveting or welding.

(c) The gunwales may be of clear grain oak or teak. When made in two lengths the gunwales shall be scarphed with a good long bevel scarph stiffened on the under side by a piece of the same material at least 2 feet long, 1¼ inches thick, and of the same width as the gunwale.

(d) The size of gunwales shall be of not less than the following dimensions:

Length of Boat:	*Depth of Gunwale, Inches*	*Width of Gunwale, Inches*
12 feet and not over 18 feet	$1\frac{7}{8}$	$2\frac{1}{8}$
Over 18 and not over 20 feet	$1\frac{7}{8}$	$2\frac{1}{4}$
Over 20 and not over 22 feet	2	$2\frac{3}{8}$
Over 22 and not over 24 feet	$2\frac{1}{4}$	$2\frac{1}{2}$
Over 24 and not over 26 feet	$2\frac{3}{8}$	$2\frac{5}{8}$
Over 26 feet	$2\frac{5}{8}$	$2\frac{7}{4}$

C–2–11. *Nosings.*

TB/ALL. The outside of the gunwale angle shall have a nosing fitted to the gunwale of hollow half round 2 inches by ¼ inch, or the nosing may be of clear grain oak or teak; the flat side of the nosing on boats not over 20 feet long shall be not less than 1½ inches wide and five-eighths inch thick; on boats over 20 feet and not over 24 feet it shall be not less than 1⅞ inches wide and 1 inch thick; on all boats over 24 feet it shall be not less than 2¼ inches wide and 1 inch thick.

C–2–12. *Gunwale Braces.*

TB/ALL. (a) The gunwales shall be secured to the thwarts by steel braces and teed on the thwarts as follows:

Length of Boat:	*Size of Brace, Inches*	*Teed on Thwarts, Inches*
22 feet and under	$\frac{5}{16}$ by 1¼	4
Over 22 feet	$\frac{3}{8}$ by 1½	5

(b) The gunwale braces shall be bolted to thwarts and riveted, or welded to gunwales.

C–2–13. *Breast Plates.*

TB/ALL. Breast plates shall be fitted to the stem and sternpost, the thickness of the breast plates to be not less than the thickness of the leg of the gunwale. The depth of the throat of the plate shall be not less than twice the depth of the gunwale.

C–2–14. *Thwarts.*

TB/ALL. (a) The dimensions of the thwarts shall be as given in table except that the mast thwarts shall be 2 inches wider and the hole properly reenforced.

The number of thwarts shall be not less than the following:

Length of Boat:	*No. of Thwarts*
Under 18 feet	4
18 feet and under 24	5
24 feet and under 28	6
28 feet and under 32	7

(b) The thwart ends shall be fitted between flanges and secured thereto by bolts in addition to the bolts through the gunwale braces. The U flanges shall extend inboard to take the brace bolt, which shall be 1 inch in width less than the thwart.

(c) Stretchers or lower cross seats of sufficient size and strength shall be fitted in suitable positions for the efficient rowing of all boats.

(d) In boats over 20 feet in length where lower cross or side seats are required to be fitted, they shall be well secured and supported. They shall not be placed more than 12 inches above the floors.

(e) *Stanchions.*—Stanchions shall be fitted in all lifeboats where the unsupported length of the thwarts exceeds 4½ feet.

(f) *Footings.*—Footings shall cover the bottom of the boat between the side tanks, spaced not more than 2 inches apart. The width of the footings shall be not less than 7½ inches except the center footing, which shall not be less than 9½ inches.

(g) The footings shall be made readily portable, and so arranged that the plugs are at all times directly accessible without removing any fitting.

TB/ALL

C–2–15. *Metallic Lifeboat Scantling.*

Length of boat not over—	Bar keel, stem, and sternpost	Angle bar gunwales	Shell plate		Floors			Nosing hollow ½ round	Fir or yellow pine thwarts	Fir or yellow pine stanchions	Fir or pine side and end benches	Yellow pine footlings	Tackle and painter shackles
			Side plating	Bottom plating	Depth not less than—	Thickness	Spacing not more than—						
	Inches	*Inches*			*In.*		*Inches*	*Inches*	*Inches*	*Inches*	*Inch*	*Inch*	*Inch*
12 feet 0 inches	2½ by ½	2 by 1½ by ¼	No. 18 B. W. G.	No. 18 B. W. G.				2 by ¼	1 1/16 by 7¼	1 1/16 by 4½	⅞	⅞	5/8
14 feet 0 inches	2½ by ½	2 by 1½ by ¼	do	do				2 by ¼	1 1/16 by 7¼	1 1/16 by 4½	⅞	⅞	5/8
16 feet 0 inches	2½ by ½	2 by 1½ by ¼	do	do				2 by¼	1 1/16 by 7¼	1 1/16 by 4½	⅞	⅞	5/8
18 feet 0 inches	2½ by ⅝	2 by 2 by ¼	do	do				2 by ¼	1 5/16 by 4¼	1 1/16 by 4½	⅞	⅞	5/8
20 feet 0 inches	2½ by ¾	2 by 2 by ¼	No. 16 B. W. G.	No. 16 B. W. G.				2 by ¼	1 5/16 by 7¼	1 1/16 by 4½	⅞	⅞	5/8
22 feet 0 inches	2½ by ¾	2 by 2 by ¼	do	do				2 by ¼	1 5/16 by 7¼	1 1/16 by 4½	⅞	⅞	3/4
24 feet 0 inches	3 by ¾	2½ by 2 by ¼	do	do				2 by ¼	1½ by 9	1 1/16 by 4½	⅞	⅞	3/4
26 feet 0 inches	3 by ¾	2½ by 2 by ¼	No. 14 B. W. G.	No. 13 B. W. G.	6	No. 14 B. W. G.	36	2 by ¼	1½ by 9	1 1/16 by 5½	⅞	⅞	3/4
28 feet 0 inches	3½ by ¾	2½ by 2½ by ¼	do	do	6	do	36	2 by ¼	1½ by 9	1 1/16 by 5½	⅞	⅞	⅞
30 feet 0 inches	3½ by ¾	2½ by 2½ by ¼	do	do	6	do	30	2 by ¼	1¾ by 9	1 1/16 by 5½	⅞	⅞	⅞
32 feet 0 inches	4 by ¾	2½ by 2½ by ¼	do	do	6	do	30	2 by ¼	1¾ by 9	1 1/16 by 5½	⅞	⅞	⅞

C–2–16. *Hoisting Shackles.*

TB/ALL. Hoisting or lifting shackles when installed in the ends of lifeboats shall have the shackle pins go through the stem and sternpost. Sectional area around the shackle pinhole shall be at least equal to the area of the shackle specified for the lifeboat. In cases where the lifting shackles are required to be installed inside of the lifeboat, such lifting shackles shall be attached to bracket plates, riveted to stem and sternpost or to rods with bracket plates riveted to keel. The complete unit for each boat of the brackets, rods, and connecting bolts shall be of sufficient strength to support the loaded lifeboat with a safety factor of 6.

(b) Hooks may be allowed in lieu of lifting shackles when constructed with a safety factor of 6, except when disengaging apparatus is required.

(c) Rings or links shall not be attached to lifeboats for hoisting purposes. When attached to the lower tackle blocks they shall be of such strength as to resist the proof load test without set, six times the maximum working load.

(d) The safety factor of 6 referred to is on material having a tensile strength of 58,000 to 65,000 pounds per square inch.

C–2–17. *Plug.*

TB/ALL. Each lifeboat shall be fitted with an automatic plug.

C–2–18. *Galvanizing and Plating.*

TB/ALL. All steel or iron entering into the construction of lifeboats shall be galvanized by the hot process.

C–2–19. *Air Tanks.*

TB/ALL. (a) All lifeboats contracted for after September 30, 1912, shall have not more than 50 per cent of the air-tank capacity in the ends of the boat and the remaining capacity shall be located in the side tanks.

(b) After June 20, 1912, the air tanks of all lifeboats shall be entirely independent of the hull or other construction and shall be of suitable non-corrosive material and of a capacity of not less than 1.5 cubic feet for each person allowed in metallic boats and not less than 1 cubic foot for each person allowed in wooden boats: *Provided*, That in all metallic boats constructed and inspected on and after March 1, 1931, there shall be at least 1 cubic foot for each person allowed in addition to sufficient air-tank capacity to float the boat (including its equipment), when filled with water. Such air tanks shall be firmly and securely fastened in the hull, and in such manner as will allow them to be temporarily removed, and in no case shall the tanks be punctured or opened for such fastenings. The tops of such tanks shall be thoroughly protected by a grating or platform or by the thwarts or seats. Such air tanks of 6 cubic feet or less shall be constructed of material of a thickness not less than No. 22 B. W. G.; from 6 cubic feet to and including 15 cubic feet, of a thickness not less than No. 20 B. W. G.; and all air tanks of more than 15 cubic feet capacity shall be of a thickness not less than No. 18 B. W. G.

(c) All joints of air tanks shall be properly double riveted and tightly calked or securely hook jointed and efficiently soldered or properly and securely welded, and such air tanks shall be located in such a manner that will permit the lifeboat to be on as near an even keel as possible when flooded with water.

(d) The cubical contents of air space of air tank shall be stamped on the tank where same can be seen when air tank is placed in boat.

(e) All air tanks shall be fitted with a connection of one-half inch outside diameter, for testing purposes.

(f) Before any lifeboat is passed and accepted, the air tanks thereof shall be tested in the presence of an inspector of this Service by an air pressure of not more than 1 pound to the square inch.

SECTION C–3—CONSTRUCTION OF WOODEN LIFEBOATS

C–3–1. *Materials.*

TB/ALL. The timber shall be of the best quality, well seasoned, free from sapwood, shakes, and objectionable knots. The other materials shall be the best of their respective kinds.

C–3–2. *Keels, Stems, Sternposts, Aprons, Deadwoods, Scarphs, Stem Bands.*

TB/ALL. (a) Keels, stems, sternposts, aprons, and deadwoods shall be oak or elm with no short grain or shakes. Parts having considerable curvature shall be oak or hackmatack grown to form. The stem and sternpost are to be rabbeted to take the plank ends and form an efficient stop for the caulk. The depth of the rabbet shall not exceed the thickness of the plank.

(b) Aprons shall be of sufficient size to insure a 3-inch faying surface and receive the double fastenings of the hooded ends.

(c) Deadwoods are to be of the same size as the keel and are to scarph properly with the apron and keelson. The timbers are to be checked into the deadwoods, and cavities filled wth marine glue to form a water course.

(d) Keel and hop piece shall be elm or oak, and the keel shall be in one length.

(e) Scarphs connecting the stem and sternpost to the keel may be either vertical or horizontal. The vertical scarphs shall be secured by five clinched nails, and the horizontal or

flat scarphs shall be properly lipped and secured by at least two through fastenings. Ordinary tenons shall not be accepted as equivalent to scarphs.

(f) Stem bands shall be galvanized wrought iron and extend from the breasthook over the stem head to keel plate or 2 feet abaft the scarph.

C–3–3. *Planking.*

TB/ALL. (a) The planking may be of the clincher, carvel, or multiple-skin types, the carvel and double plank to be recommended, especially the latter when for use on vessels in tropical trades.

(b) In clincher-built boats the extreme breadth of the plank is not to exceed 5½ inches; except in the four strakes next to the keel, which may be as follows: 2 at 7 inches, 1 at 6½ inches, and 1 at 6 inches.

(c) In boats 18 feet in length and under, these breadths may require to be reduced about an inch. The landings shall not be less than seven-eighth inch in breadth. The planks should be in as long lengths as possible, with an efficient shift of butts. There shall be at least two passing strakes between butts in the same timber space.

C–3–4. *Timbers.*

TB/ALL. Timbers shall be elm or oak bent to shape and fitted in one length from gunwale to gunwale, except in the extreme ends of the boats. The spacing of timbers shall not exceed 6 inches center to center.

C–3–5. *Keelsons, Bilge Stringers, Risings, Gunwales, Etc.*

TB/ALL. (a) Keelsons shall be in one length and overlap the dead-woods so as to take all the fastenings of the lifting plates. A substantial hardwood chock shall be well secured to the keelson to form a mast step; the keelson shall not be cut for this purpose.

(b) The bilge stringers and risings should be in as long lengths as possible, properly scarphed at the butts, and either through fastened at each timber or fastened at each timber with a brass screw.

(c) In boats 25 feet in length and over, the heads of the timbers are to be carried up and connected through the sheer strake and gunwale.

(d) In all boats, provision shall be made for double-banking the oars.

C–3–6. *Thwarts, Stanchions, Footings, Plugs, Etc.*

TB/ALL. (a) The number of thwarts shall not be less than given by the following:

Lifeboats, Length in Feet:	*No. of Thwarts*
18 and under	4
Over 18 and not over 24	5
Over 24 and not over 28	6
Over 28 and not over 30	7

(b) the distance of the top of the thwarts below the top of the gunwale shall be as follows:

Lifeboats, Length in Feet:	*Inches*
22 and under	9
Over 22 and not above 28	10
Over 28 and not above 30	11

(c) The thwarts shall be scored over the timbers and directly attached to the risings by means of two screws at each end.

(d) In all boats where the unsupported length of the thwarts exceeds 5 feet, stanchions well connected to the thwart and to the side of keelson shall be fitted.

(e) The side benches shall be continuous and fitted in as long lengths as possible; they shall not be removable but form part of the permanent structure of the boat.

(f) In boats over 20 feet in length where lower cross or side seats are required to be fitted, they are to be well secured and supported. They shall be placed as low as practicable.

(g) Stretchers or lower cross seats of sufficient size and strength are to be fitted in suitable positions for the efficient rowing of all boats.

(h) All lower seats and bottom boards are to be made readily portable, and so arranged that the plugs are at all times directly accessible without removing any fitting.

(i) The plug chains are to be securely attached to the boat by screws.

C–3–7. *Thwart Knees.*

TB/ALL. (a) The knees shall be of wrought or stamped iron, galvanized, 1¼ inches thick at the thwart.

(b) In lifeboats over 24 feet in length, the knees shall be double, but, in lieu thereof, iron knees of special design may be adopted.

(c) The knees shall be connected to the side of the boat and to the thwarts by at least 2 through fastenings in each arm. Nut and screw bolts are recommended for the purpose. The bolts should be cupheaded and the nuts have iron plate washers on the under side of the thwarts. Any additional fastenings may be stout screws, but spike or wire nails are not to be allowed. A hardwood chock 3 inches wide should be fitted between knee and side of boat to receive knees and fastenings of sheer strake.

(d) Where wood knees are preferred, they should be of oak, ash, elm, or hackmatack grown to form. The fastenings may be galavanized iron, but wire nails shall not be allowed.

C–3–8. *Breasthooks.*

TB/ALL. (a) The sides of the boat at the ends shall be well bound together across the middle line, the breasthooks being of sufficient number and size, having regard to the dimensions and form of the boat. The arms are to extend along the sides of the boat for at least two timber spaces, and are to be through fastened by 2 bolts in each arm and 1 through the throat.

(b) The breasthooks are to be galvanized iron, or oak or hackmatack grown to form.

(c) Rubbers, filling pieces, bilges keels.—Fore and aft rubbers shall be fitted to all boats.

(d) Clincher-built boats are to have filling pieces for about one-third of the boat's length amidships, fitted to the projecting plank edges from the gunwale to the bilge.

(e) In all boats intended to accommodate more than 60 persons, vertical fenders extending from the gunwale down to the bilge, are to be fitted to facilitate launching on the high side of a listed ship. These fenders are to be sufficient in number to prevent damage to the boats when being lowered. If the fenders are of wood they are to have cope iron fitted to the outside edges.

(f) Particulars of any proposed arrangements, including alternatives such as skates or rollers temporarily secured to the boat to prevent it from being damaged, and to facilitate launching, are to be submitted for the Board's approval.

(g) When bilge keels are fitted, they shall be secured to a doubling plank well fastened to the bottom planking and timbers by brass screws. Bilge-keel fastening shall not penetrate the bottom planking. Suitable hand grips shall be made in the bilge keels for use in event of capsizing.

C–3–9. *Fastenings.*

TB/ALL. (a) Fastenings of the keel, stem, and sternpost, aprons, knees, keelsons, or deadwood shall be through fastenings wherever practicable, or long screws. There shall not be less than six through fastenings in the deadwood at each end of the boat.

(b) The hog shall be secured to the keel by galvanized screws 8 inches to 7 inches apart, and the keelson to the keel by through fastenings 24 to 27 inches apart. In boats over 23 feet in length, the hog may be in two pieces provided it is scarphed to the satisfaction of the inspector.

(c) Box gunwales shall be through fastened at every timber, and solid gunwales should be secured with at least four through fastenings between each pair of thwart knees and strengthened by check pieces in way of rowlocks. All gunwales when not fitted in one length shall have either lipped or table scarphs, and the scarphs of gunwales shall be kept if possible beyond midship half length of the boat.

(d) Plank fastenings shall be copper of sufficient length and gage, and those in the plank edges, scarphs, and timbers

properly clinched. One fastening is required between the timbers in each edge of each plank, subject to a maximum spacing of 3½ inches in clincher-built boats.

C–3–10. *Air Tanks.*

TB/ALL. (a) All lifeboats contracted for after September 30, 1912, shall have not more than 50 per cent of the air-tank capacity in the ends of the boat and the remaining capacity shall be located in the side tanks.

(b) After June 20, 1912, the air tanks of all lifeboats shall be entirely independent of the hull or other construction and shall be of suitable noncorrosive material and of a capacity of not less than 1.5 cubic feet for each person allowed in metallic boats and not less than 1 cubic foot for each person allowed in wooden boats: *Provided,* That in all metallic boats constructed and inspected on and after March 1, 1931, there shall be at least 1 cubic foot for each person allowed in addition to sufficient air tank capacity to float the boat (including its equipment), when filled with water. Such air tanks shall be firmly and securely fastened in the hull, and in such manner as will allow them to be temporarily removed, and in no case shall the tanks be punctured or opened for such fastenings. The tops of such tanks shall be thoroughly protected by a grating or platform or by the thwarts or seats. Such air tanks of 6 cubic feet or less shall be constructed of material of a thickness not less than No. 22 B. W. G.; from 6 cubic feet to and including 15 cubic feet, of a thickness not less than No. 20 B. W. G.; and all air tanks of more than 15 cubic feet capacity shall be of a thickness not less than No. 18 B. W. G.

(c) All joints of air tanks shall be properly double riveted and tightly calked or securely hook jointed and efficiently soldered or properly and securely welded, and such air tanks shall be located in such a manner that will permit the lifeboat to be on as near an even keel as possible when flooded with water.

(d) The cubical contents of air space of air tank shall be stamped on the tank where same can be seen when air tank is placed in boat.

(e) All air tanks shall be fitted with a connection of one-half inch outside diameter, for testing purposes.

(f) Before any lifeboat is passed and accepted, the air tanks thereof shall be tested in the presence of an inspector of this Service by an air pressure of not more than 1 pound to the square inch.

SECTION C–4—CONSTRUCTION OF RAFTS

C–4–1. *Cylinders.*

TB/ALL. (a) All metal life-raft cylinders of more than 15 feet in length or of more than 16 inches in diameter shall be constructed of metal not less than No. 18 B. W. G. No life-raft cylinders shall be of less thickness of metal than No. 20 B. W. G.

(b) The retaining bands which secure the cylinders to the frame shall be made in halves, so that the cylinders may be detached without difficulty and without disassembling the body of the raft, for the purpose of inspection, cleaning, and painting, as required by section 46. Wooden guards and gunwales shall be secured to the retaining bands by angle-iron clips or by the jaws of the retaining bands. Iron rods extending across the raft at top and bottom shall pass through the gunwale and its securing clips or jaws at each end of the raft. The ends of the rods shall be properly secured with a screw nut inside and outside of the gunwale.

(c) All such cylinders shall be divided by water-tight bulkheads into not less than three compartments of equal lengths. Cylinders over 9 feet in length shall be divided into equal lengths by watertight bulkheads into not less than one compartment for every 3 feet of its length. One of such bulkheads shall be at the extreme end of each cylinder or as near thereto as the flange of cone or bumped ends will permit. Each compartment shall be provided with a suitable air-pump connection of one-half inch outside diameter, fitted with airtight cap.

(d) Only countersunk-headed rivets shall be used in the construction of metallic life rafts.

(e) All seams and joints shall be properly double riveted.

(f) The above provisions of this section shall take effect only as to life rafts constructed after December 31, 1908.

(g) The circumferential as well as the longitudinal seams of life-raft cylinders shall be riveted and tightly calked, or securely hook jointed and efficiently soldered, or properly and securely welded on rafts constructed after June 30, 1905. Such longitudinal seams shall be secured by not less than 12 rivets to each foot, circumferential seams by not less than 10 rivets to each foot, and bulkheads by not less than 8 rivets to each foot. Bulkhead flanges may be single riveted. The diameter of shank of rivets shall be not less than No. 10 B. W. G.

C–4–2. *Framework.*

TB/ALL. The framework connecting the cylinders of metallic liferafts shall be substantially built and capable of resisting the strain which tends to break the cylinders apart when the raft is broadside on in surf or seaway.

C–4–3. *Test.*

TB/ALL. Before any life raft is passed and accepted the air tanks thereof shall be tested in the presence of an inspector of this service by an air pressure of not more than 1 pound to the square inch.

C–4–4. *Approval.*

TB/ALL. (a) No type of raft may be approved unless it satisfies the following conditions:

(b) FIRST. It should be reversible and fitted with bulwarks of wood, canvas, or other suitable material on both sides. These bulwarks may be collapsible, and shall be not less than 4 inches high.

(c) SECOND. It should be of such size, strength, and weight that it can be handled without mechanical appliances, and, if necessary, be thrown from the vessel's deck.

(d) THIRD. It should have not less than 3 cubic feet of air cases or equivalent buoyancy for each person whom it can accommodate.

(e) FOURTH. It should have a deck area of not less than 4 square feet for each person whom it can accommodate, and the platform should be not less than 6 inches above the water level when the raft is loaded.

(f) FIFTH. The air tanks or equivalent buoyancy should be placed as near as possible to the sides of the raft.

SECTION C–5—CARRYING CAPACITY OF LIFEBOATS AND LIFERAFTS

C–5–1. *Capacity of Open Boats.*

TB/ALL. (a) FIRST. The cubic capacity of an open boat shall be determined by Stirling's (Simpson's) rule or by any other method, approved by the Board of Supervising Inspectors, giving the same degree of accuracy. The capacity of a square-sterned boat shall be calculated as if the boat had a pointed stern.

(b) SECOND. For example, the capacity in cubic feet of a boat, calculated by the aid of Stirling's rule, may be considered as given by the following formula:

$$\text{Capacity}=\frac{L}{12}(4A+2B+4C)$$

"L" being the length of the boat in feet from the inside of the planking or plating at the stem to the corresponding point at the sternpost; in the case of a boat with a square stern, the length is measured to the inside of the transom. A, B, C, denote, respectively, the areas of the cross sections at the quarter length forward, amidships, and the quarter length aft, which correspond to the three points obtained by dividing L into four equal parts. (The areas corresponding to the two ends of the boat are considered negligible.)

(c) The areas A, B, C, shall be deemed to be given in square feet by the successive application of the following formula to each of the three cross sections:

$$\text{Area}=\frac{h}{12}(a+4b+2c+4d+e)$$

h being the depth measured in feet inside the planking or plating from the keel to the level of the gunwale, or, in cer-

tain cases, to a lower level, as determined hereafter. a, b, c, d, e, denote the horizontal breadths of the boat measured in feet at the upper and lower points of the depth and at the three points obtained by dividing h into four equal parts (a and e being the breadths at the extreme points, and c at the middle point, of h).

(d) THIRD. If the sheer of the gunwale, measured at the two points situated at a quarter of the length of the boat from the ends, exceeds 1 percent of the length of the boat, the depth employed in calculating the area of the cross sections A or C shall be deemed to be the depth amidships plus 1 percent of the length of the boat.

(e) FOURTH. If the depth of the boat amidships exceeds 45 percent of the breadth, the depth employed in calculating the area of the midship cross section B shall be deemed to be equal to 45 percent of the breadth; and the depth employed in calculating the areas of the quarter-length sections A and C is obtained by increasing this last figure by an amount equal to 1 percent of the length of the boat, provided that in no case shall the depths employed in the calculation exceed the actual depths at these points.

(f) FIFTH. If the depth of the boat is greater than 4 feet, the number of persons given by the application of this rule shall be reduced in proportion to the ratio of 4 feet to the actual depth, until the boat has been satisfactorily tested afloat with that number of persons on board, all wearing life jackets.

(g) SIXTH. The following rule may be used, provided it does not give a greater capacity than that obtained by the above method: measure the length and breadth outside of the planking or plating and the depth inside at the place of minimum depth. The depth used in calculating shall not in any case exceed 45 percent of the breadth. The product of these dimensions multiplied by 0.6 resulting in the nearest whole number shall be deemed the capacity in cubic feet.

TB/OCLB. (h) To determine the number of persons a boat may carry, divide the result by 10 for all vessels navigating waters other than rivers.

Example

(i) The carrying capacity of a boat 22 feet in length, 6 feet in breadth, and 2½ feet in depth, shall be determined as follows:

$$\frac{22\times6\times2\frac{1}{2}\times0.6}{10}=\frac{198}{10}=19 \text{ persons}$$

TB/R. (j) To determine the number of persons a boat is to carry, for vessels navigating rivers divide the result by 8.

Example

$$\frac{22\times6\times2\frac{1}{2}\times0.6}{8}=\frac{198}{8}=25 \text{ persons}$$

TB/ALL. (k) If after a practical demonstration it is found that there is a greater seating capacity than is allowed by the above, the number of square feet may be reduced, but never less than 3 square feet for each person.

TB/R. (l) Lifeboats with the ends at least nine-tenths of the width of the boat at its widest part and sides and ends of even height, to be used on steamers navigating rivers only, shall be measured in accordance with the following rule: Measure the length and breadth outside of the plates and the depth inside at the center. The product of these dimensions multiplied by 0.9 resulting in the nearest whole number shall be deemed the capacity in cubic feet.

TB/ALL. (m) The cubical capacity of a lifeboat propelled by hand-operated propeller shall be obtained by deducting from the gross capacity a volume equal to that occupied by such device.

(n) In all cases the vessel owner has the right to require that the cubic capacity of the boat shall be determined by exact measurements.

(o) Every lifeboat shall have sufficient room, freeboard, and stability to safely carry the number of persons allowed to be carried by the above rule, which fact shall be determined by actual test in the water at the time of the first inspection of the lifeboat, except that where a vessel is carrying lifeboats of different types or capacities, at least one lifeboat of each type or capacity shall be so tested.

C–5–2. *Capacity of Life Rafts.*

TB/ALL. (a) The capacity of all life rafts shall be determined as follows:

(b) For every person carried there shall be not less than 3 cubic feet of air space or equivalent buoyancy and a deck area of not less than 2½ square feet.

(c) Rafts shall never be allowed a greater number of persons than for whom there is proper seating capacity without interfering with the use of the oars.

C–5–3. *Capacity of Buoyant Apparatus.*

TB/ALL. The capacity of all buoyant apparatus will be determined by the number of persons for which the Bureau of Steamboat Inspection has approved the particular types and size of the said appliance.

SECTION C–6—CORK LIFE PRESERVERS

C–6–1. *General.*

TB/ALL. (a) Every life preserver adjustable to the body of an adult person, manufactured after February 10, 1923, shall be of the reversible type, made of suitable material approved by the Board of Supervising Inspectors, with straps properly attached on each side of the body of the life preserver (thus making it reversible), with recesses under the arms, thereby allowing the front and back sections to fit around the upper part of the wearer, and held in place by the straps, and the upper part of the life preserver shall be made vestlike cut so as to fit snugly over the shoulders, the whole so constructed as to place the main buoyant body of the device underneath the shoulders and around the body in a manner that it will support the person wearing it in an upright or a slightly backward position.

(b) All such life preservers shall not be less than 52 inches in length when measured laid flat, and every life preserver shall be capable of sustaining for a continuous period of at least 24 hours an attached weight so arranged that whether the said weight be submerged or not there shall be a direct downward gravitation pull upon said life preserver of at least 20 pounds.

C–6–2. *Covering.*

TB/ALL. All life preservers shall be covered with unbleached, uncolored, or chrome yellow (vat dye) cotton drill or twill without filling or sizing, weighing not less than 7.2 ounces to the square yard, except that vivatex or its equivalent may be used where it is of a weight not less than 10.2 ounces for each square yard. The covering shall be in not more than 2 pieces, 1 piece forming either side. The lower longitudinal edge of the covering seam shall be turned to a roll and closely rope stitched.

C–6–3. *Straps.*

TB/ALL. The straps or other approved means of securing the life preserver about the body of the wearer shall be of double-woven cotton tape of 1¾ inches width with two selvage or cord edges, of 175 pounds tensile strength, extending along both sides of the life preserver and secured thereto in a permanent manner, so as to make such life preserver reversible, the ends of the straps extending 12 inches beyond the ends of the jacket: *Provided*, That when it becomes necessary to replace belt straps on life preservers of the single-belt type, it shall be done in the foregoing manner, so as to make such repaired life preservers reversible.

C–6–4. *Thread.*

TB/ALL. All thread used in the construction of life preservers shall be of a size and strength not less than Barbour's linen, three-cord, No. 25, machine thread, and any thread other than linen shall be approved by the Board of Supervising Inspectors before being permitted to be used. All seams and other machine sewing on life preservers shall be with a short lock stitch, not less than eight stitches to the inch.

C–6–5. *Cork.*

TB/ALL. (a) Cork block life preservers shall contain an aggregate weight of 5½ pounds of good cork in the body thereof, and where the blocks are made up of separate pieces said pieces shall be fastened with non-corrosive materials.

(b) Blocks of compressed cork when used in life preservers shall weigh in the aggregate not less than 5¼ pounds in the body thereof, and shall be so constructed that said blocks will sustain, without disintegration or substantial expansion, a submersion test satisfactory to the inspector examining the same, and that at the expiration of such test shall have the buoyancy above required.

(c) The edges, corners, and outside surface of block material used in the construction of life preservers shall present a smooth surface to guard against undue destruction of the covering material and present suitable smooth surface for legible stenciling and stamping by the inspectors making the inspection.

C–6–6. *Cork Substitute.*

TB/ALL. Blocks of balsa wood or sheaves of tule when used in life preservers shall fulfill the same requirements as for life preservers constructed of solid or compressed cork as to construction, material in cover, straps, and thread and be subjected to similar tests for buoyancy.

C–6–7. *Collar.*

TB/ALL. When a kapok collar is provided, it shall be filled with prime Java kapok, efficiently tufted, such collar filling to weigh at least 10 ounces, and every such kapok collar should be capable of sustaining for a continuous period of at least 48 hours an attached weight so arranged that whether the weight shall be submerged or not there shall be a direct downward gravitation pull of at least eleven times the weight of the completed collar or collar sample undergoing the test. Such kapok supporting collars and all other supporting collars shall be subjected to buoyancy test separate and independent to that of the test required for the body of the life preserver.

C–6–8. *Approval.*

TB/ALL. (a) Every new type of life preserver submitted to the Board of Supervising Inspectors for approval shall be accompanied by specifications, blue prints, or drawings, in triplicate, and no such type of life preserver shall be approved without an actual satisfactory service test being witnessed by the Board of Supervising Inspectors.

(b) After September 2, 1921, no life preserver shall be passed at the factory inspection which does not fulfill the foregoing requirements, but life preserves now in use or already passed at factory inspection may be used on board vessels, provided they are constructed in accordance with the laws and regulations in force up to the date of September 2, 1921, and are in good and serviceable condition: *Provided,* That life preservers that have deteriorated to the extent of requiring new covers may be used upon vessels under the jurisdiction of this service when reconstructed in a manner to conform in every particular with the foregoing requirements.

C–6–9. *Marking.*

TB/ALL. All life preservers shall be marked with the name and address of the manufacturer.

C–6–10. *Inspection.*

TB/ALL. The supervising inspector of the district shall detail a local or assistant inspector to any place where approved life preservers are manufactured, whose duty it shall be to test and examine all life preservers manufactured at that place and satisfy himself that such life preservers are in accordance with the requirements of the Board of Supervising Inspectors. When found to be in accordance with the requirements, the inspector shall stamp them with a stamp bearing the initials of his name and the date of examination and certifying that they have been examined and passed. When life preservers are so stamped, it shall be prima facie evidence that they comply with the requirements of law and regulations as to their original construction, and they may thereafter be accepted by inspectors, in their discretion, as being in accordance with law and the Rules and Regulations of the Board of Supervising Inspectors.

SECTION C–7—KAPOK LIFE PRESERVERS

C–7–1. *Approval.*

TB/ALL. (a) Every type kapok life preserver used on any vessel subject to inspection by this service shall first be approved by the Board of Supervising Inspectors. The life preservers receiving such approval shall conform in every respect to the sample submitted to the board.

(b) Kapok life preservers to receive the approval of the board shall be simple in design and of a character to support the wearer in an upright or slightly backward position. The life preserver shall be filled with not less than 1½ pounds of prime Java Kapok and shall be suitably and efficiently tufted. It shall be tested for bouyancy as follows:

C–7–2. *Test.*

TB/ALL. (a) FIRST. At least 1 life preserver from each lot of 250 shall be selected indiscriminately by an inspector of this service for buoyancy test.

(b) SECOND. The life preserver shall be submerged in a tank of fresh water for a period of 48 hours.

(c) THIRD. The life preserver shall then support in fresh water a submerged weight of 20 pounds for a period of 24 hours. Whenever life preservers contain more than 1½ pounds of kapok in the body thereof the buoyant test shall be made in the ratio of 20 pounds to each 1½ pounds of kapok.

C–7–3. *Collar.*

TB/ALL. When a kapok collar is provided, it shall be filled with prime Java kapok, efficiently tufted, such collar filling to weigh at least 10 ounces, and every such kapok collar shall be capable of sustaining for a continuous period or at least 48 hours an attached weight so arranged that whether the weight shall be submerged or not there shall be a direct downward gravitation pull of at least 11 times the weight of the completed collar or collar sample undergoing the test. Such kapok supporting collars and all other supporting collars shall be subjected to a buoyancy test separate and independent to that of the test required for the body of the life preserver.

C–7–4. *Marking.*

TB/ALL. All approved kapok life preservers shall be marked with the name and address of the manufacturer. Each life preserver shall be marked on the front compartment "Adults" if for the use of adults; and "Children", if for the use of children; and if of a character suitable for the use of both adults and children, it shall be so marked.

C–7–5. *Inspection.*

TB/ALL. For each lot of 250 life preservers the manufacturer shall submit to the local inspectors of the district in which manufactured an affidavit setting forth the material with which the life preservers are filled and that the life preservers meet in every respect the requirements of the General Rules and Regulations of the Board of Supervising Inspectors. Every life preserver meeting the above requirements shall be inspected by an inspector of this Service and stamped with his initials and the date of inspection.

SECTION C–8—LIFE BUOYS

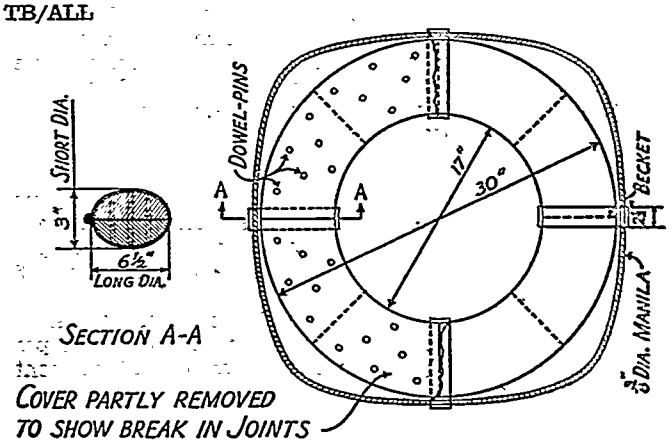
C–8–1. *Buoyancy.*

TB/ALL. Life buoys shall be capable of sustaining in fresh water for a continuous period of 24 hours an attached weight so arranged that whether said weight be submerged or not there shall be a direct downward gravitation pull upon the buoy of not less than 32 pounds. The required buoyancy may be supplied by solid cork or any other equivalent material, but no life buoy shall be approved which is filled with rushes, cork shavings, or granulated cork, or any other loose granulated material, or whose buoyancy depends upon air compartments which require to be inflated.

C–8–2. *Standard Ring Life Buoys.*

TB/ALL. Ring buoys of the standard type shall conform to the following sketch and shall be of not less than 30 inches outside diameter and not less than 17 inches inside diameter, but any form of construction which will meet the general purposes of this specification may be used after having been approved by the Board of Supervising Inspectors.

TB/ALL



STANDARD RING LIFE BUOY

C–8–3. *Buoyant Material.*

TB/ALL. The buoyant material shall be of sheet cork weighing not more than 12 pounds per cubic foot. The cork shall be in two layers or thicknesses. The cork sheets shall be flattened and smoothed so that the back or outside hard crust is removed sufficiently to give a smooth surface for gluing. One layer shall be built of segments not to exceed four in number. The other layer may be built of segments not to exceed eight in number. The ends of all segments shall be fitted neatly and glued securely one to the other. The two layers shall be neatly joined and properly and securely dowel-pinned and glued firmly together with joints staggered or broken. When completed, the outside of the life buoy shall be of good, sound corkwood finished to a smooth surface.

C–8–4. *Glue.*

TB/ALL. The glue used shall be insoluble in water, and the finished life buoy shall stand steaming at a pressure of two pounds for a period of 30 minutes without disintegration or other positive indications of the glue losing its adhesive properties.

C–8–5. *Strength.*

TB/ALL. The body of the life buoy before covering shall withstand a downward gravity pull of 200 pounds, the weight to be attached to the life buoy body by a sling covering a surface of 2 linear inches without breaking, without rupture of the joints, or without showing a maximum elongation of internal diameter in excess of 1½ inches while the weight is attached and after being under this test for a period of 30 minutes.

C–8–6. *Covering.*

TB/ALL. The life buoy shall be covered with cloth of sufficient weight and strength to protect fully the body of the life buoy, such material to be a strength at least equal to unbleached single-filling cotton duck having a weight of 10 ounces per square yard.

C–8–7. *Sewing.*

TB/ALL. The cover shall be constructed and placed on the body of the life buoy in a substantial manner. All seams and other machine sewing on the life buoy shall be with a short lock stitch not less than eight stitches to the inch. The inside seam shall be sewed with a rope stitch not less than three stitches to the inch. All thread used in the construction of the life buoy shall be No. 16, three-cord linen.

C–8–8. *Beckets.*

TB/ALL. Four beckets 2½ inches wide, made from the same material as the covering of the buoy, shall be securely attached to the life buoy and spaced an equal distance from each other.

C–8–9. *Grab Line.*

TB/ALL. A grab line shall pass through the beckets which shall be sewed tightly together to prevent slipping. The line shall be manila, ⅜-inch in diameter, three-ply, medium quality, having the ends securely and neatly spliced, the line to be fastened in bights around the outer edge of the life buoy.

C–8–10. *Factory Inspection of Life Buoys.*

TB/ALL. The Supervising Inspector of the District shall detail a local or assistant inspector to any place where ring life buoys are manufactured within his district, whose duty it shall be to test and examine all such buoys manufactured at that place. When a ring life buoy is found to be in accordance with the requirements of the rules of the Board of Supervising Inspectors the inspectors shall stamp the buoyant material, and after completion of the buoy, shall stamp the cover with the word "passed", his initials, the inspection port, and the date of approval. The buoyant material and the cover shall also be stamped by the manufacturer with the name or trade mark of the manufacturer.

SECTION C–9—SELF-IGNITING WATER LIGHTS

C–9–1. *Cylinder.*

TB/ALL. The self-igniting water lights for ring buoys and life rafts shall consist of a cylinder (with bumped heads or ends) made of good sheet copper of not less than 0.022-inch thick, and shall be so designed as to be nonexplosive, and shall be free from any defects which may affect the serviceability or operation of the light. The cylinder shall be sufficiently weighted in the bottom to recover and maintain an upright position in the water, and all circumferential and horizontal seams of the cylinder shall be hook jointed and soldered, and the top circumferential seam shall be flush, so as to prevent the lodgment of water.

C–9–2. *Plug.*

TB/ALL. The cylinder shall be provided with a plug or other device of such character that when removed from the cylinder sufficient water will be admitted to insure the prompt and efficient action of the light regardless of whether the cylinder when first striking the water becomes completely submerged.

C–9–3. *Lanyard.*

TB/ALL. The removal of the plug or device shall be affected by the operation of a lanyard attached to the buoy and to the plug or device on the cylinder, and shall be so arranged and constructed that the weight of the buoy when thrown overboard will automatically disengage the plug or device, and will insure that the light will self-ignite within one minute after reaching the surface of the water: *Provided*, That on tank vessels the self-igniting water light need not be attached to the ring buoy, but may be placed alongside the buoy which it is intended to serve, so that it can be easily and quickly attached to the buoy by means of its lanyard when needed in case of emergency. On tank vessels, when self-igniting water lights are not attached to the ring buoys, a snap hook shall be provided for this purpose.

C–9–4. *Chemical.*

TB/ALL. The cylinder shall contain calcium carbide (taken from fresh stock entirely free from the white powdery substance resulting from exposure to the air) and calcium phosphide sufficient to create a brilliant flame of at least 150 candlepower, which shall be maintained and burn for a continuous period of not less than 45 minutes without emitting obnoxious fumes. If at any time during this period the flame is extinguished, due to the total submersion of the light, the light shall self-ignite upon coming to the surface.

C–9–5. *Marking.*

TB/ALL. The cylinder shall be plainly marked with the word "Top" at its top end and permanently indented or embossed with the name and address of the manufacturer, the year of manufacture (the use of labels of any description for this purpose is strictly forbidden) and with the statement that the device meets in every way the requirements of the Board of Supervising Inspectors.

C–9–6. *Approval.*

TB/ALL. On and after July 1, 1924, no type or make of water light will be approved which has not been tested by the Bureau of Standards, Department of Commerce, and found to conform in all respects to these requirements.

C–9–7. *Life Raft Water Lights.*

TB/ALL. The self-igniting water lights required for life rafts shall meet the above requirements, except that the plug or device may be removed by manual action instead of by automatic action of the buoy lanyard above referred to.

SECTION C–10—LINE THROWING GUN

C–10–1. *Muzzle-Loading Gun.*

T/OC. The muzzle-loading type of gun shall be of steel or of bronze not less than 20 inches long, 2½ inches smooth bore, and weigh with its carriage not more than 200 pounds. It shall have a primer hole fitted in the upper wall. On guns manufactured after June 30, 1920, the primer hole shall be protected by a beading, coaming, or projection extending above the wall of the gun not less than one-half inch. The gun shall be mounted in a carriage on trunnions or other suitable mechanism so as to permit of elevation up to 35° The carriage may be of wood, reinforced with metal or recesses properly spaced to receive the gun trunnions or other supporting mechanisms. These recesses or seats shall be fitted with detachable trunnion cap squares or a similar device to permit easy mounting and dismounting of the gun. The carriage shall be so constructed that the gun may be secured in elevation. Rings, eyebolts, or other efficient device shall be fitted to the carriage for securing it in position for firing.

C–10–2. *Breech-Loading Gun.*

T/OC. The breech-loading type of gun shall be of the materials specified for the muzzle-loading type. It shall also approximate the dimensions and weight required for the muzzle-loading gun and shall be smooth bored. It shall be equipped with suitable breech closing and locking devices, capable of withstanding pressures of 23,500 pounds per square inch. A breech-loading gun must incorporate in its design a suitable gas-checking device to prevent the escape of gas to the rear.

(b) The mount shall be of the slide and carriage type and shall be provided with a suitable recoil-checking mechanism. The slide shall include a means of carrying or mounting the gun so as to permit recoil and the recoil-checking mechanism. It shall be fitted with trunnions which shall rest in the trunnion seats of the carriage so as to permit the gun and slide to be elevated up to 35° The carriage shall be a U- or a Y-shaped casting having at its base a pivot which will fit in a rail socket or socket stand, thus permitting motion of the gun, slide, and carriage in train. It shall afford suitable trunnion seats fitted with cap squares and bolts. There shall be incorporated in this type of mount efficient means for securing the gun in elevation and train.

C–10–3. *Material.*

T/OC. (a) Material used in the construction of bronze guns shall have a tensile strength of not less than 65,000 pounds per square inch with an elongation of not less than 20 per cent in 2 inches and a reduction of area not less than 25 per cent.

(b) Material used in the construction of steel guns shall have a tensile strength of not less than 65,000 pounds per square inch with an elongation of not less than 20 per cent in a length of two inches.

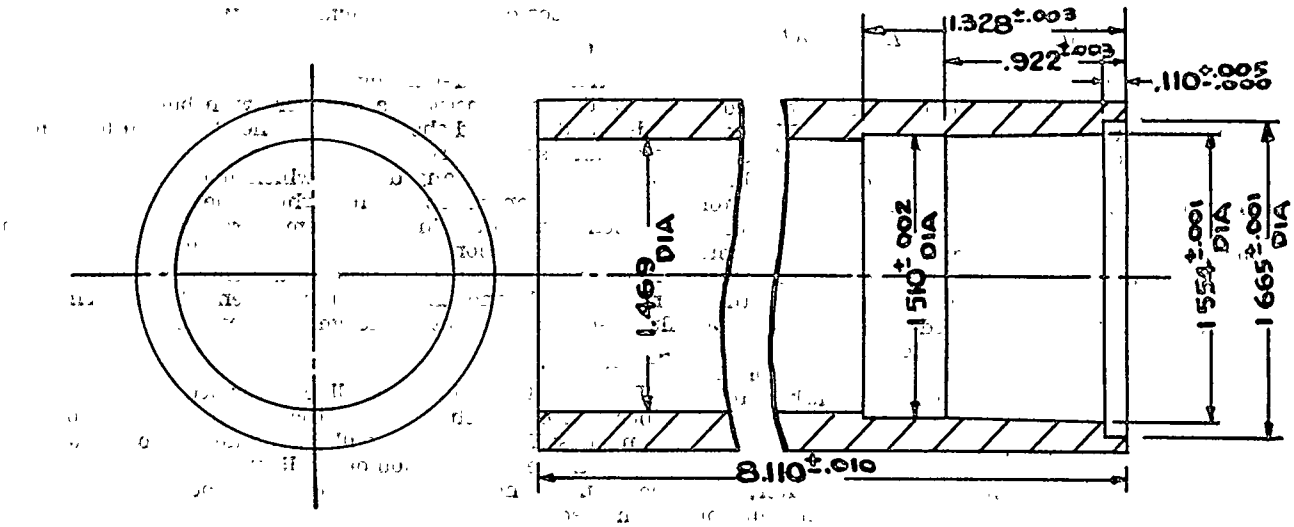
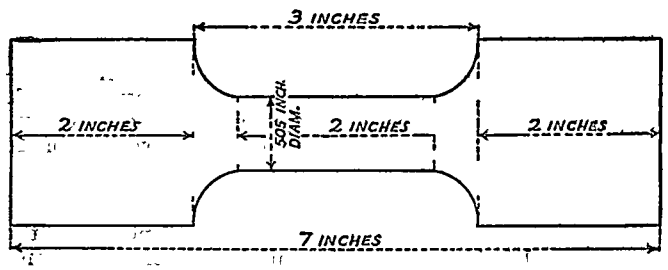


FIGURE 1.—MARINE SIGNAL PISTOL.

NOTE.—Chamber and bore dimension for approved signal pistol.

(c) The manufacturer shall furnish the supervising inspector in whose district the gun is tested a sample of the material used in its construction, accompanied by an affidavit that the specimen submitted actually and correctly represents the material used. The sample shall be distinctly marked with the number appearing on the gun it represents, and shall conform to the dimensions as shown in the diagram below:



C–10–4. *Factory Tests.*

T/OC. (a) *Tests and Approval.*—A mounted line carrying gun shall be tested in the presence of the supervising inspector of the district by firing three rounds from the gun. At least one round shall carry the regular service projectile with

one of the service lines attached for a distance of at least 1,400 feet without breaking or fouling the line, under conditions of a reasonably still atmosphere. The other rounds shall be fired with not less than the same weight powder charge used in the above test, and one shall be fired with not less than an 8-ounce charge. The projectiles used for these shots shall be of the same weight as the service projectile, but no line need be attached. Test shots shall be fired from the gun when mounted on its own carriage, lashed as in shipboard use. After the test has been satisfactorily completed, the gun and carriage shall show no signs of fracture or damage.

(b) *Marking of Gun and Equipment and Filing Report.*— The mounted type line-carrying gun and its equipment, i. e., carriage, line box, or reel and projectiles, shall all bear the same number and be initialed by the inspector who observes the test. He shall file a report of the test, together with the number of the gun, the date, and the result, in the office of the supervising inspector in whose district the test is made, and the supervising inspector shall furnish the manufacturer a copy of the report.

C–10–5. *Signal Pistol.*

T/OC. (a) The signal pistol outfit shall be constructed in accordance with the following specifications:

(b) The pistol will be substantially constructed of good quality material properly protected against corrosion. The dimensions of the barrel and chamber of the pistol shall conform with the dimensions set forth in diagram marked Figure 1.[1]

(c) The exterior case of the cartridge shall be made of a suitable metal and shall be reasonable proof against the entrance of moisture.

(d) The signal projectile when discharged vertically upward shall attain an altitude of not less than 150 feet, and be so constructed that the parachute will be expelled at approximately the maximum altitude reached.

(e) The pyrotechnic candle shall be suspended by a suitable parachute at the approximate altitude of expulsion and the average rate of descent during the period of burning shall not exceed 6 feet per second in reasonably still air.

(f) The projectile case and delay element shall be so constructed as to prevent any possibility of the propelling charge blowing by and causing premature ejection of the projectile contents.

(g) All approved signal cartridges shall be capable of being fitted into and fired from a pistol that is bored and chambered in conformity with the chamber drawing illustrated in Figure 1.

(h) The pyrotechnic candle shall burn for not less than 30 seconds with a brilliant red flame of not less than 20,000 candle power as determined by a Sharp-Millar photometer or equivalent photometric device.

(i) All pistols and cartridges must be marked with the name of the manufacturer and date of manufacture. All pistols and cartridges manufactured and approved before the effective date of this section may be continued in use until replaced.

(j) Signal cartridges shall not be retained on board and in use for a period of more than two years from the date of manufacture.

(k) The portable water-tight case shall be constructed of copper or other non-corrosive metal or steel which has been thoroughly galvanized, or not less than No. 19 BWG thickness, seams lock jointed and soldered. The cover shall fit on a tight rubber gasket and be securely held in place by clamps or dogs. The case should be of a size that will conveniently contain the pistol and 12 cartridges.

Attest: J. B. WEAVER,
Director and Chairman of the Board of Supervising Inspectors.

Approved, July 31, 1936.

J. M. JOHNSON,
Acting Secretary of Commerce.

[F. R. Doc. 1531—Filed, August 3, 1936; 10:26 a. m.]

[1] See page 992.

FARM CREDIT ADMINISTRATION.

FCA 12

USE OF JOINTLY-OWNED CLASS B STOCK OF PRODUCTION CREDIT ASSOCIATIONS IN CONNECTION WITH LOANS TO AN INDIVIDUAL, AND OF INDIVIDUALLY-OWNED CLASS B STOCK IN CONNECTION WITH JOINT LOANS

Pursuant to the authority conferred upon the Governor of the Farm Credit Administration by the Farm Credit Act of 1933, particularly section 20 thereof, and pursuant to section 23 of said Act, section 104d of the Revised Rules and Regulations for Production Credit Associations (Chap. V, Subdivision A, Sec. 104d, Federal Register Compilation) is hereby amended by adding thereto subsection (5) as follows:

In cases where class B stock has been issued to two or more persons jointly, such stock cannot be used in connection with an individual loan of any of the joint stockholders. Such jointly-owned stock may be transferred to one of the individual owners, or a division between the joint owners may be effected by means of a transfer of a proportionate part of the jointly-owned stock to each owner, under the conditions governing transfers stated in section 104g hereof. Such transfers should be made only when requested by all the joint owners. Likewise, in the reverse situation, individually-owned class B stock cannot be used in connection with a joint loan (unless and until such stock has been transferred to the joint borrowers).

[SEAL] S. M. GARWOOD,
Production Credit Commissioner.

[F. R. Doc. 1530—Filed, August 5, 1936; 12:17 p. m.]

FEDERAL COMMUNICATIONS COMMISSION.

RULE 229 AMENDED

The Commission, meeting in general session on July 21, 1936, amended Rule 229 to read in part as follows:

Frequency (kilocycles)		*Service*
* * *		* * *
h, 1, 6210		Aircraft and maritime calling.
* * *		* * *
10120	10125	Aviation.
10125		Aviation.
10130		Aviation.

[SEAL] JOHN B. REYNOLDS,
Acting Secretary.

[F. R. Doc. 1505—Filed, August 5, 1936; 9:13 a. m.]

RULE 229 FURTHER AMENDED, AND MADE PERMANENT, EFFECTIVE SEPTEMBER 15, 1936

At a general session on July 21, 1936, the Commission took the following action:

In the following cases, Protest of Purdue University to Commission Order No. 14 amending Rule 229, Docket 4057; Petition of National Television Corporation for hearing on Commission Order No. 14 amending Rule 229, Docket 4058; and application and supplemental petition of National Television Corporation, Docket No. 3029, the Commission entered the following order:

That Rule 229 as amended May 13, 1936, be made permanent, effective September 15, 1936, except as to the frequency band 2000–2100 kc. As to the frequencies 2000–2100 kc, the Commission ordered that Rule 229 be further amended as follows:

Frequency	*Allocation*
2000	Amateur.
a2001	Govt. & exp. vis. broadcast.
h2003	Govt. & exp. vis. broadcast.
2012	Exp. vis. broadcast.
2016	Exp. vis. broadcast.
2020	Relay brdcst. & exp. vis. brdcst.
a2021 (2022)	Relay brdcst. & exp. vis. brdcst.
a2021	Govt., relay brdcst. & exp. vis. brdcst.
a2021 (2020)	Govt. & exp. vis. brdcst.

Frequency	*Allocation*
2028	Govt. & exp. vis. brdcst.
12032	Govt. & exp. vis. brdcst.
2036	Police (intercity teleg.) & exp. vis. brdcst.
2040	Police (intercity teleg.) & exp. vis. brdcst.
2044	Police (intercity teleg.) & exp. vis. brdcst.
12048	Govt. & exp. vis. brdcst.
a2052	Govt. & exp. vis. brdcst.
2056, 2058	Relay broadcast & exp. vis. broadcast.
2060	
2064	Govt. & exp. vis. broadcast.
2066	Govt. & exp. vis. broadcast.
2068	Govt. & exp. vis. broadcast.
h2072	Govt. & exp. vis. broadcast.
12076	Govt. & exp. vis. broadcast.
2080	Govt. & exp. vis. broadcast.
2082	Govt. & exp. vis. broadcast.
2084	Govt. & exp. vis. broadcast.
2088, 2090	Relay broadcast & exp. vis. broadcast.
2092	
a2096	Govt. & exp. vis. broadcast.

That the further amendment be effective 3:00 a. m., e. s. t., September 15, 1936.

[SEAL] JOHN B. REYNOLDS,
Acting Secretary.

[F. R. Doc. 1564—Filed, August 5, 1936; 9:13 a. m.]

[Docket No. 4063]

NOTICE OF INFORMAL HEARING BEFORE THE BROADCAST DIVISION OF THE FEDERAL COMMUNICATIONS COMMISSION, BEGINNING OCTOBER 5, 1936

The Broadcast Division, at its regular meeting on July 17, 1936, approved the following notice:

Notice is hereby given of an informal hearing before the Broadcast Division of this Commission, to be held in the offices of the Commission at Washington, D. C., beginning at 10 A. M., October 5, 1936, for the purpose of determining what principles should guide the Commission in matters relating to or affecting the allocation of frequencies and the prevention of interference in the band 550–1600 kc, and, in particular, what changes, if any, should be made in the Commission's existing regulations or in the standards heretofore applied by it and its Engineering Department, in order to give effect to those principles.

Individual applications, individual assignments, and requests for allocation of broadcast facilities to particular groups or organizations will not be considered.

The Broadcast Division of the Commission desires to obtain the most complete information available with respect to this broad subject of allocation, not only in its engineering, but also in its corollary social and economic phases, to the end that such regulations and standards as it may retain or adopt will make possible such use of the band 550–1600 kc as will provide maximum service (both transmission and reception) in the public interest. The improvements in, and the increased knowledge of, the engineering aspects of broadcasting since the inauguration of the present allocation system in 1928, will be taken into consideration; also the amendment of June 5, 1936, to the Communications Act of 1934, repealing Sec. 302 and modifying Sec. 307 (b).

Specifically, the Broadcast Division will consider proposals and evidence for or against such proposals, as to the principles that should guide it with respect to its regulations and standards on such subjects as the following:

I. *Classification of broadcast stations.*

1. Desirability of establishing new classes, or of subdividing, modifying, or abolishing any existing class.

2. Proper definition of each class with respect to purpose and character of service.

3. Number of frequencies to be allocated to each class.

4. Suitability of various bands of frequencies (e. g., propagation characteristics and noise levels) in the range 550–1600 kc for the service to be rendered by each class.

5. Extent to which freedom from interference is to be secured to each class and extent to which duplicated use, night or day, of frequencies allocated to each class is to be permitted, including

(a) number of stations to be permitted to operate simultaneously on frequencies of each class;
(b) mileage-frequency separation tables as a method for determining permissible duplications;
(c) advisability of establishing subclassifications of any of the principal classes;
(d) use of frequencies allocated to one class by stations of another class;
(e) possibility of duplicated use of a frequency by two 50 kw stations separated by a substantial distance;
(f) consideration of hour of sunset as the dividing line between daytime and nighttime permissible duplications, and location at which sunset or other hour should be taken as such dividing line;
(g) application of directional antennas; and
(h) application of synchronization.

7. Maximum and minimum power requirements with respect to each class, including

(a) increases in power above 50 kw on any class of frequency;
(b) horizontal increases in power on frequencies on which nighttime duplicated operation is permitted, and
(c) differentiation in maximum power at day and at night.

II. *Standards to be applied in determining coverage and the presence or absence of objectionable interference.*

1. Propagation characteristics of the various frequencies in the range 550–1600 kc, including comparison of east-west and north-south transmission, effect of intervening mountain ranges, and seasonal variations.

2. Prevailing attenuation in various parts of the country.

3. Proper ratio of desired to undesired signal.

4. Signal intensity necessary to render satisfactory service in various types of community (e. g., urban, residential, rural, etc.).

5. Relative electrical noise levels, natural and man-made, in the range 550–1600 kc and in various types of communities.

6. Frequency separation, including:

(a) the prescribed 10 kc separation between frequencies used by broadcast stations;
(b) the customary 50 kc separation between frequencies used by broadcast stations in the same community;
(c) mileage-frequency separation tables as a method for determining minimum geographical separation between stations using frequencies separated by from 10 to 40 kc;
(d) permissible disparity in power between stations on adjacent frequencies;
(e) practicable standards of receiver selectivity, and
(f) practicable standards of receiver fidelity.

7. Proper definition of blanketing signal.

8. Legitimate assumptions with respect to Heaviside layer and sunspot cycle.

III. *Geographical distribution of broadcast facilities.*

1. Weight to be given to such factors as area, population, and economic support.

2. Desirability of establishing a system for evaluating facilities (e. g., a quota system) in order to comply with Sec. 307(b) of the Communications Act of 1934, as amended, and "to provide a fair, efficient, and equitable distribution of radio service" among the several States and communities.

3. Feasibility of allowing adherence to sound engineering principles automatically to effect the distribution required by Sec. 307 (b).

IV. *Standards and methods of measurement* with respect to

1. Power.
2. Tolerance.
3. Field Intensity.
4. Determination of service.
5. Determination of interference.

V. *Apparatus performance requirements to be imposed on broadcast stations.*

1. Frequency stability.
2. Antenna efficiency.
3. Modulation.
4. Suppression of harmonics.
5. Fidelity of transmission.
6. Transmitter location.

VI. *Effect of any proposals regarding the foregoing subjects.*

1. Socially and economically, upon the public and the industry.

2. Internationally, upon use of the band 550–1,600 kc by other countries in North and Central America.

3. Upon possible future use of frequencies in the band 6,000–30,000 kc and in the band above 30,000 kc for broadcasting.

This outline is not to be taken as excluding evidence and proposals bearing on allocation matters not specifically enumerated, provided such evidence and proposals otherwise come within the limitations set forth in this notice.

Cross-examination of witnesses will be limited to questions by Commissioners and members of the Commission's legal and technical staffs.

Persons or organizations desiring to appear and testify should notify the Commission of such intention on or before September 15, 1936. In such notification the number of witnesses who will appear and the time estimated to be occupied by each should be stated. This information is necessary in order more efficiently to organize the hearing. Proposals seeking amendment of existing regulations should be accompanied by written drafts of the amendments desired, to be submitted at the time such proposals are made during the hearing.

Prior to this hearing, the Broadcast Division will publish the results of the so-called "clear channel survey", undertaken during the past year, in order that all persons who desire to appear at the hearing will have as much information as is practicable with respect to the performance of stations operating under practical conditions.

By the Commission.

[SEAL] JOHN B. REYNOLDS,
Acting Secretary.

[F. R. Doc. 1570—Filed, August 5, 1936; 9:15 a. m.]

TELEGRAPH DIVISION ORDER NO. 15–B

At a special meeting of the Telegraph Division of the Federal Communications Commission, July 25, 1936:

The Telegraph Division having under consideration its Order No. 15–A and the requests of certain interested carriers with respect thereto:

It is ordered, That, effective immediately, Telegraph Division Order No. 15–A be amended as follows:

1. That the part of the second ordering paragraph reading as follows:

* * * and shall be sent at rates not exceeding fifty (50) per centum of the rates applicable to commercial communications of the same class, of the same length, and between the same points. * * *

be amended by inserting the words "full ordinary" immediately after the words "per centum of the", and by deleting the words "of the same class", so that this part as amended will read as follows:

* * * and shall be sent at rates not exceeding fifty (50) per centum of the full ordinary rates applicable to commercial communications of the same length and between the same points, * * *.

2. That the part of the second ordering paragraph reading as follows:

* * * and provided, further, (a) that with respect to communications to and from the Philippine Islands and the Canal Zone, the percentages specified shall apply * * *.

be amended by striking out the symbol and word "(a) that" and inserting the same symbol and word immediately after the words "Canal Zone" and by striking out the word "communications" and inserting in lieu thereof the words "Government ordinary messages", so that this part as amended will read as follows:

* * * and provided, further, with respect to Government ordinary messages to and from the Philippine Islands and the Canal Zone, (a) that the percentages specified shall apply * * *.

3. That the word "and" before the symbol "(d)" in the last clause of the second ordering paragraph be stricken out and the following provision be added at the end of the second ordering paragraph:

* * * and (e) that the rates of Mackay Radio and Telegraph Company (California) up to and including June 30, 1937, between the following named points, shall be:

	Per Word
Between Washington, D. C., and Philippine Islands:	
Luzon Island, Manila	$0.34
Luzon Island, Other offices	.39
Other Islands, All offices	.52
Between San Francisco, Cal., and Philippine Islands:	
Luzon Island, Manila	.265
Luzon Island, Other offices	.315
Other Islands, All offices	.445
Between Honolulu, Hawaii, and Philippine Islands:	
Luzon Island, Manila	.225
Luzon Island, Other offices	.275
Other Islands, All offices	.405

By the Commission, Telegraph Division.

[SEAL] JOHN B. REYNOLDS,
Acting Secretary.

[F. R. Doc. 1569—Filed, August 5, 1936; 9:15 a. m.]

TELEGRAPH DIVISION ORDER NO. 25

In a regular meeting of the Telegraph Division of the Federal Communications Commission, July 14, 1936:

The Telegraph Division, having under consideration the subject of purchases and the prices paid for such purchases and the rates of compensation paid employees by wire telegraph carriers, and other information relating thereto, and in accordance with Section 213 of the Communications Act of 1934:

It is ordered, that every wire telegraph carrier subject to the Communications Act of 1934 shall, on or before March 31, 1937, file with the Commission, at its office in Washington, D. C., a verified report in duplicate covering the calendar year 1936, showing the purchases of new material and net prices paid for such purchases, the rates of compensation paid its employees, and other general information, in the manner prescribed on the accompanying F. C. C. Forms No. 788 (Material Purchased) and No. 789 (Rates of Compensation and General Information), which forms are included in and made a part of this order, and complying with the following instructions:

FORM NO. 788 (MATERIAL PURCHASED)

1. Show materials purchased for the calendar year for each item listed in sub-paragraph 7 and, for each f. o. b. point, the information requested for total purchases.

2. Where purchases are made at the same price for delivery at more than one f. o. b. point, the quantity may be combined in one entry, all of the f. o. b. points being shown.

Report to the Federal Communications Commission, Engineering Department, material purchased, year _____

F. C. C. Form No. 788.
Owner _____
Operating Company _____
Operating Division _____

Sheet No. _____ of _____
Compiled by _____
Title _____
Correct _____
Title _____

Sheets (This Form) _____

Maker or Supplier	Catalogue or Carriers Specification Number	From Whom Purchased	F. O. B. Point	Point of Delivery to Carrier	Unit	Weight per Unit	Item, Kind, and Description	Number of Units Purchased	Cost per Unit: At F. O. B. Point	Cost per Unit: Freight paid	Cost per Unit: Commission Paid for Purchasing	For use of F. C. C.	
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)

3. Where purchases in considerable quantities are made by operating divisions, a separate report shall be made for each division.

4. Where the point of delivery to carrier is the same as the f. o. b. point, columns 5 and 11 may be left blank.

5. Where the point of delivery to carrier is different from the f. o .b. point, the cost f. o. b. and freight paid shall be shown separately. The f. o. b. price, column 10, should not include any freight, inspection, commission for purchasing, supply or other expense.

6. Under column 12, "Commission paid for purchasing" the costs of purchasing through agencies other than the company purchasing agent should be reported and may be shown either as a per cent of f. o. b. cost or cost per unit.

7. Quantities of material purchased under the following items shall be reported in alphabetical order, for each account. On the heading of the sheets shall be typed the calendar year in which purchased.

ITEM

TELEGRAPH EQUIPMENT (ACCOUNT 207)

Auto Control, 1A.
Artificial Lines, 120–A and 121–A.
Condenser, Adj. 4–C.
Distributors.
Interrupter, 3–A.
Milliammeter, Diff. 1–A.
Indicator, Balance, 123.
Perforator, 2–A.
Perforator, GPE–1–GG.
Printer, 21–A.
Printer, 598–A (equivalent to 21–A).
Printer, 12.
Printer, Simplex, 2–B.
Printer, Type 14.
Printer, Type 15.
Relay, Locking, 10–A.
Relay, 368–A.
Relay, Polar, 17–B.
Relay, Polar, 300–A.
Relay, Polar, 215–A.
Relay, Wheatstone, 1–F.
Relay, W. E., E–471.
Relay, W. E., E–1689
Relay, W. E., E–355.
Relay, W. E., E–6470.
Relay, W. E., E–1153.
Relay, W. E., B–22.
Rheostat, Rad. Arm, 1–C.
Selector, Model F.
Selector, 331.
Stamp, Time, #3TR (Stromberg).
Stamp, Time, #10 (Stromberg).
Time, Stamp, #1 (Stromberg).
Time, Stamp, #6T (Stromberg).
Stamp, Numbering, #2–B (Bates).
Table, Distributor, 1–A, 1 Dist. Operation, Without Major Units.
Table, Distributor, 1–A, 2 Dist. Operation, Without Major Units.
Table, Multiplex Distributor (Without Major Units), NDT–12.
Table, Operating, 2–A, Without Major Units.
Table, Operating, 599–A, Without Major Units.
Table, Operating, OT2, Without Major Units.
Table, Operating, 40–B.
Rack, Repeater, 355.
Table, Unit Set, 2–B, Framework.
Transmitter, X5.
Transmitter, 1–A.

MESSENGER EQUIPMENT (ACCOUNT 208) (NOT INCLUDING MESSENGER UNIFORMS)

Box, Call, #6–B.
Call Box, 103½–A and 13½–B.
Register, Annunciator, #3–B.
Annunciator, 154–A.
Register, Call Circuit, #3–B.
Register, Call Circuit, #3–A, D. P
Register, Call Circuit, #100, D. P
Unit, Call Circuit, #3–B.
Unit, 2 Circuit Call Circuit.
Fuse, #52–B.
Fuse, K 55.
Protector, Sub-Sta., #22–A.
Protector, Sub-Sta., 977 HH.
Wire Office, #18–G, Triple Conductor, Dry Braid.
Wire, Office, #22–G, Triple Conductor, Dry Braid.

MESSENGER EQUIPMENT (ACCOUNT 208) (MESSENGER UNIFORMS)

Breeches, Messenger Boy.
Breeches, Forestry, Summer.
Trousers, Messenger Boy.
Breeches, Forestry, Winter.
Caps, Forestry.
Caps, Messenger Boy.
Coats, Forestry, Summer.
Coats, Messenger Boy.
Coats, Forestry, Winter.
Mackinaws.
Overcoats, Messenger Boy.
Puttees, Leather.
Raincapes, Messenger Boy.
Raincapes, Mounted.
Raincoats, Messenger Boy.
Raincapes, Walking.
Shirts, Messenger Boy.
Shirts, Forestry.

OTHER EQUIPMENT OF TELEGRAPH OFFICES (ACCOUNT 209)

Box, Message Storage, #2–A.
Box, Message Storage, L. B. #751.
Cabinet, Kardex, #5532.
Card File Box #54 A and #208.
Cabinet, Storage, 11–A.
Locker, Storage, PT 3.
Chair, Morse Operating, #1–D.
Chair, Simplex Printer, #2–C.
Chair, Operators, #469–A.
Chair, Straight Back, No Arms.
Chair, Swivel, No Arms.
Chair, Swivel, With Arms.
Clock, Self Wind, #29, 14" Dial.
Clock, Electric Secondary, 14" Dial 816–A.
Clock, Synchronous, 14" Dial 724–A.
Desk, Flat Top, 60" x 36" (#106)

Desk, Flat Top, 60" x 34" #822-A.
Desk, Flat Top, 60" x 50" (#112).
Desk Flat Top, 60" x 48" #825-A.
Fan, 16" Oscillating, D. C. (Westinghouse).
Fixture, Lighting, #11720, Equalite.
Fixture, Lighting, #9920, Shellcrest.
Locker, 8 Compartment.
Locker, 7 Compartment PT 7.
Machine, Burroughs Adding, #3 (7 Column).
Machine, Burroughs Calculator #5, Hand Operation.
Machine, Bookkeeping, Model #23, With Counters and Motor Attached.
Register, Cash, National (#1997-7-E).
Stamp, Time and Date, with Lock.
Stamp, Time and Date, Stromberg #1.
Tile, Trendlite, 12" x 12".
Tile, Mastic, 12" x 12" and 9" x 9".
Typewriter, Underwood, Double Case.
Typewriter, W. U. Standard.
Typewriter, Postal Standard.
Unit, Message File, #3-A.
Cabinet, Message File, #144.

SUBSCRIBERS' EQUIPMENT (ACCOUNT 210)

Block, Ticker, Cutout.
Cable, Ticker, 4 Cond'r.
Pedestal and Base, #3-A.
Tickers, #3-A, High Speed.
Tickers, #1-C, Self Wind.
Printer, Simplex A. C. or D. C.
Printer, Model 14.
Table, Simplex, #31-A.
Table, Printer 1-A.
Table, Simplex, #31-B.
Table, Printer 1-D.
Table, Simplex, #41-A.
Table, Printer 1-C.
Chair, Simplex.
Chair, Operators 469-A.
Box, Call, Signal, #2-A or #3-A.

POLE LINES (ACCOUNT 211)

Poles, all kinds, lengths and classes.
Guy Strand, All Sizes.
Guy Clamps, 2 and 3 Bolts.
Anchor Rods, Std. Sizes.
Anchor Logs, All Sizes and Kinds.
Crossarms, All Sizes and Kinds.
Crossarm Bolts 12" and 14".
Braces, Std. Steel, Crossarm.
Screw, Fetter Drive, 2¼" and 4½".
Pins, Steel, Std.
Pins, Wood, 1¾" x 8".

AERIAL CABLE (ACCOUNT 212)

Cable, P. I. L. S., All Sizes.
Cable, R. I. L. S., All Sizes.
Cable, B. W. P., All Sizes.
Suspension Clamps, 1 and 3 Bolt.

AERIAL WIRE (ACCOUNT 213)

Wire, Copper, No. 9 A. W. G. Bare Line.
Wire, Steel, No. 8 B. W. G. Bare Line.
Wire, Copper Ties, No. 9 A. W. G.
Wire, Steel Ties, No. 9 B. W. G.
Insulators, Std. Glass.

UNDERGROUND CONDUITS (ACCOUNT 214)

Conduit, Creo. Wood, Per Du. Ft.
Conduit, Vit. Clay, Per Du. Ft.
Conduit, Iron Pipe 3".
Conduit Protection 4½" Creo. Plank.
Conduit Protection 9" Creo. Plank.
Manhole Castings, All Sizes.

Report to the Federal Communications Commission, Engineering Department, rates of compensation and general information, year _____

F. C. C. Form No. 789.
Owner _____
Operating Company _____
Operating Division _____

Sheet No. _____ of _____ Sheets (This Form)
Compiled by _____ _____
Title _____ _____
Correct _____ _____
Title _____ _____

Occupation (1)	Rate: Per hour (2)	Rate: Per day (3)	Rate: Per month (4)	Remarks (5)

UNDERGROUND CABLE (ACCOUNT 215)

P. I. L. S. and R. I. L. S. Cable as recorded under account 212.

SUBMARINE TELEGRAPH CABLE (ACCOUNT 216)

Cable, Submarine, all kinds and sizes.

PNEUMATIC TUBES (ACCOUNT 217)

Tubing, Copper, 2¼" I. D.
Tubing, Steel, 2¼" I. D.
All other Items included under Account 214.

8. Subject to the approval of the Commission, items of plant may be added to, or dropped from, the above list to meet current or changing plant and operating conditions.

Form No. 789 (*Rates of Compensation and General Information*)

9. The information shall be shown for each operating division of the company. Report average compensation for each occupation, and for each division, the average rate per man per month, including subsistence for outside construction men and for inside equipment men.

10. On the last page, report the average percentage charged to supervision of labor, and supply expense on material during the year.

General

11. The name and title of the person compiling the data shall be given in the space provided for that purpose, and the completed data shall be certified as "correct" with the personal signature and title of the person so certifying, on each form.

12. Reports shall be typewritten on white, tough paper. Size of sheet 11" x 17". Leave 1¼" blank space on left hand edge for binding.

It is further ordered that a similar report shall be filed on or before March 31st of each succeeding calendar year for each preceding calendar year, showing purchases, compensation, etc., as enumerated above for the year 1935.

It is further ordered that in accordance with authority contained in Section 604 of the Communications Act of 1934, Valuation Order No. 17, prescribed by the Interstate Commerce Commission, effective May 5, 1915, as revised March 30, 1932, is hereby repealed, in so far as it applies to carriers subject to the Communications Act of 1934.

By the Commission, Telegraph Division.

[SEAL] JOHN B. REYNOLDS,
Acting Secretary.

[F. R. Doc. 1566—Filed, August 5, 1936; 9:13 a. m.]

TELEGRAPH DIVISION ORDER No. 26

At a session of the Telegraph Division of the Federal Communications Commission held at its offices in Washington, D. C., on the 22nd day of July 1936:

The Telegraph Division having under consideration the subject of commercial operator extra first class licenses, as now provided for in the Commission's Rules and Regulations, and

It appearing, that this type of license serves no useful purpose, for the reason that the privileges granted thereunder are duplicated by the privileges extended under a radiotelegraph operator first class license bearing radiotelephone operator first-class endorsement.

It is ordered, that the said Rules and Regulations be, and the same are, hereby amended as follows:

1. By deleting all provisions of Rule 421.
2. By deleting all provisions of paragraph (1) of Rule 439.
3. By striking out the word "Other" at the beginning of paragraph (2) of Rule 439 and substituting therefor the words "All operator."

It is further ordered, that existing commercial operator extra first class licenses will remain valid until expiration and, when submitted for renewal, they shall be considered as radiotelegraph operator first class licenses bearing radiotelephone operator first class endorsements.

By the Commission, Telegraph Division.

[SEAL] JOHN B. REYNOLDS, *Acting Secretary.*

[F. R. Doc. 1567—Filed, August 5, 1936; 9:14 a. m.]

RULE 262 AMENDED

The Telegraph Division, on July 25, 1936, modified Rules 262a, A and 262a, B, b, to read in part as follows:

RULE 262a, A

* * * * * * *

6,210 kilocycles: Day only, calling and working frequency for all itinerant aircraft. It may also be assigned to transport aircraft in addition to other frequencies. This frequency is made available for communication by special arrangements with government and non-government aeronautical stations on flights where the use of 3,105 kilocycles is unsuitable.

* * * * * * *

RULE 262A, B, B

* * * * * * *

MID-TRANSCONTINENTAL CHAIN AND FEEDERS (BLUE)

* * * * * * *

AVAILABLE FOR AERONAUTICAL POINT TO POINT STATIONS

2720	[1]6510	8015: Day only
2732	[1]6520	10125: Day only
4110	[1]6530	

[1] These frequencies assigned for unlimited hours upon the express condition that no interference is caused to the international mobile service.

* * * * * * *

[SEAL] JOHN B. REYNOLDS, *Acting Secretary.*

[F. R. Doc. 1568—Filed, August 5, 1936; 9:14 a. m.]

FEDERAL TRADE COMMISSION.

Commissioners: Charles H. March, Chairman; Garland S. Ferguson, Jr., Ewin L. Davis, W. A. Ayres, Robert F. Freer.

[File No. 21-262]

IN THE MATTER OF TRADE PRACTICE CONFERENCE RULES FOR THE PRIVATE HOME STUDY SCHOOLS' INDUSTRY

NOTICE OF OPPORTUNITY TO OFFER SUGGESTIONS OR OBJECTIONS

This matter now being before the Federal Trade Commission under its Trade Practice Conference procedure, in pursuance of the Act of Congress approved September 26, 1914 (38 Stat. 717; 15 U. S. C. A., Section 41).

Opportunity is hereby extended by the Federal Trade Commission to any and all persons affected by or having an interest in the trade practice conference rules for the Private Home Study Schools' Industry, as tentatively approved by the Commission, to present to the Commission their views upon the same, including suggestions or objections, if any. For this purpose they may, upon application to the Commission, obtain copies of these rules. Communications of such views should be made to the Commission at its offices in Washington, D. C., 815 Connecticut Avenue NW., not later than Thursday, August 20, 1936. After giving due consideration to such suggestions or objections as may be received concerning these rules, the Commission will proceed to their final consideration.

By the Commission.

[SEAL] OTIS B. JOHNSON, *Secretary.*

Entered August 4, 1936.

[F. R. Doc. 1571—Filed, August 5, 1936; 11:10 a. m.]

United States of America—Before Federal Trade Commission

At a regular session of the Federal Trade Commission, held at its office in the City of Washington, D. C., on the 31st day of July A. D. 1936.

Commissioners: Charles H. March, Chairman; Garland S. Ferguson, Jr., Ewin L. Davis, W. A. Ayres, Robert E. Freer.

[Docket No. 2758]

IN THE MATTER OF WILLIAM FREIHOFER BAKING COMPANY

ORDER APPOINTING EXAMINER AND FIXING TIME AND PLACE FOR TAKING TESTIMONY

This matter being at issue and ready for the taking of testimony, and pursuant to authority vested in the Federal Trade Commission, under an Act of Congress (38 Stat. 717; 15 U. S. C. A., Section 41),

It is ordered, that Charles F. Diggs, an examiner of this Commission, be and he hereby is designated and appointed to take testimony and receive evidence in this proceeding and to perform all other duties authorized by law;

It is further ordered, that the taking of testimony in this proceeding begin on Wednesday, August 5, 1936, at nine o'clock in the forenoon of that day (eastern standard time), at the Office of the Custodian, United States Post Office Building, Wilmington, Delaware.

Upon completion of testimony for the Federal Trade Commission, the examiner is directed to proceed immediately to take testimony and evidence on behalf of the respondent. The examiner will then close the case and make his report.

By the Commission.

[SEAL] OTIS B. JOHNSON, *Secretary.*

[F. R. Doc. 1572—Filed, August 5, 1936; 11:10 a. m.]

United States of America—Before Federal Trade Commission

At a regular session of the Federal Trade Commission, held at its office in the City of Washington, D. C., on the 3rd day of August A. D. 1936.

Commissioners: Charles H. March, Chairman; Garland S. Ferguson, Jr., Ewin L. Davis, W. A. Ayres, Robert E. Freer.

[Docket No. 2812]

IN THE MATTER OF MILLINERY QUALITY GUILD, INC., AND ITS MEMBERS AS SET FORTH IN COMPLAINT, AND UPTOWN CREATORS' GUILD, AN UNINCORPORATED ASSOCIATION, AND ITS MEMBERS AS SET FORTH IN COMPLAINT

ORDER APPOINTING EXAMINER AND FIXING TIME AND PLACE FOR TAKING TESTIMONY

This matter being at issue and ready for the taking of testimony, and pursuant to authority vested in the Federal Trade Commission, under an Act of Congress (38 Stat. 717; 15 U. S. C. A., Section 41),

It is ordered, that John W. Norwood, an examiner of this Commission, be, and he hereby is, designated and appointed to take testimony and receive evidence in this proceeding and to perform all other duties authorized by law;

It is further ordered, that the taking of testimony in this proceeding begin on Tuesday, August 18, 1936, at nine o'clock in the forenoon of that day (eastern standard time), at room 500, 45 Broadway, New York.

Upon completion of testimony for the Federal Trade Commission, the examiner is directed to proceed immediately to take testimony and evidence on behalf of the respondent. The examiner will then close the case and make his report.

By the Commission.

[SEAL] OTIS B. JOHNSON, *Secretary.*

[F. R. Doc. 1573—Filed, August 5, 1936; 11:10 a. m.]

United States of America—Before Federal Trade Commission

At a regular session of the Federal Trade Commission, held at its office in the City of Washington, D. C., on the 3rd day of August A. D. 1936.

Commissioners: Charles H. March, Chairman; Garland S. Ferguson, Jr., Ewin L. Davis, W. A. Ayres, Robert E. Freer.

[Docket No. 2838]

IN THE MATTER OF BOURJOIS, INC., A CORPORATION, AND BARBARA GOULD SALES CORPORATION

ORDER APPOINTING EXAMINER AND FIXING TIME AND PLACE FOR TAKING TESTIMONY

This matter being at issue and ready for the taking of testimony, and pursuant to authority vested in the Federal Trade Commission, under an Act of Congress (38 Stat. 717; 15 U. S. C. A., Section 41),

It is ordered that John W. Norwood, an examiner of this Commission, be and he hereby is designated and appointed to take testimony and receive evidence in this proceeding and to perform all other duties authorized by law;

It is further ordered that the taking of testimony in this proceeding begin on Friday, August 21, 1936, at nine o'clock in the forenoon of that day, in room 500, 45 Broadway, New York, eastern standard time.

Upon completion of testimony for the Federal Trade Commission, the examiner is directed to proceed immediately o take testimony and evidence on behalf of the respondent. The examiner will then close the case and make his report.

By the Commission.

[SEAL] OTIS B. JOHNSON, *Secretary.*

[F. R. Doc. 1574—Filed, August 5, 1936; 11:10 a. m.]

Friday, August 7, 1936 *No. 105*

DEPARTMENT OF THE INTERIOR.

General Land Office.

AIR NAVIGATION SITE WITHDRAWAL NO. 106

IDAHO

It is ordered, under and pursuant to the provisions of section 4 of the act of May 24, 1928 (45 Stat. 728), that the following-described tracts of public land in Idaho be, and they are hereby, withdrawn from all forms of appropriation under the public-land laws, subject to valid existing rights and as to the tract affected thereby to a power transmission line reservation under section 24 of the act of June 10, 1920 (41 Stat. 1063, 1075), for use by the Department of Commerce in the maintenance of air navigation facilities:

IDAHO

BOISE MERIDIAN

T. 5 S., R. 9 E., sec. 26, SW¼SE¼SE¼NW¼, SE¼SW¼SE¼NW¼;

T. 5 S., R. 11 E., sec. 30, fractional SW¼ of lot 2; aggregating 12.81 acres.

And it is ordered, that departmental orders of January 1, 1919, withdrawing certain lands for reclamation purposes, and April 8, 1935, establishing Idaho Grazing District No. 1, be, and they are hereby, modified so far as they affect either of the above-described tracts and made subject to the withdrawal made by this order.

T. A. WALTERS,
First Assistant Secretary.

[F. R. Doc. 1600—Filed, August 6, 1936; 9:25 a. m.]

[Circular No. 1400]

REGULATIONS RELATIVE TO PATENTS FOR LOTS IN PENSACOLA, FLORIDA

JULY 24, 1936.

THE COMMISSIONER OF THE GENERAL LAND OFFICE.

SIR: The act of June 5, 1936 (Public, No. 665, 74th Congress), provides:

That the provisions of the Act entitled "An Act authorizing the Secretary of the Interior to determine and confirm by patent in the nature of a deed of quitclaim the title to lots in the city of Pensacola, Florida", approved January 12, 1925, are hereby extended and continued to January 12, 1938: *Provided*, That there be paid to the Commissioner of the General Land Office a fee of $5 for each lot described in an application for a deed of quitclaim under such Act, which fee shall be considered earned, irrespective of the action taken on the application.

The act of January 12, 1925 (43 Stat. 738), provides:

That the Secretary of the Interior be, and is hereby, authorized to determine and confirm by patent in the nature of a deed of quitclaim the titles to lots in the city of Pensacola, Florida, to those persons, firms, or corporations submitting satisfactory evidence of being in possession, and of a chain of title, legal or equitable, beginning more than twenty years prior to the passage of this act, or to those claiming by virtue of improvements and continuous adverse possession for more than twenty years prior to the passage of this act. Such claims to lots are to be based on the approved survey made in 1827 by James W. Exum, Deputy U. S. Surveyor, or upon a supplemental plat of survey where same is found to be necessary: *Provided*, That parties having claims to lots in the city of Pensacola, Florida, and failing to present same within three years after the passage of this act, will be held to have waived their rights so to do, and such unclaimed lots will thereafter be subject to disposition solely under the act of June 23, 1832 (Fourth Statute at Large, page 559).

(1) An application under this act must be filed with the Commissioner of the General Land Office, Washington, D. C., accompanied by the required fee of $5 for each lot described in the application, prior to January 12, 1938.

(2) No special form of application is required; but the application must be under oath and must state that the applicant is in possession of the land and is shown by the county records to be the present record owner, claiming through a chain of title, legal or equitable, beginning more than twenty years prior to January 12, 1925; or that applicant was on January 12, 1925, in possession of the land and had been in continuous adverse possession for more than twenty years prior to that date and has made during that time improvements thereon. Applicant must also state whether he desires the claim to be based upon the approved survey made in 1827 by James W. Exum, Deputy U. S. Surveyor, or if he believes a supplemental plat of survey to be necessary.

(3) If applicant is claiming as record owner, he must file an abstract of title certified to by a competent abstracter, showing the record of all conveyances of the land from a date prior to January 12, 1905, to date of filing of the application, and the affidavits of two disinterested parties made of their own personal knowledge that the applicant is in possession of the land.

(4) If applicant claims by virtue of improvements and continuous adverse possession, he must file the affidavit of